Fourth Generation
United States Mission Control Center

Data Structures

26 May 1999

Version 0.8.1

USMCC Data Structures

Table of Contents

Data Structures Document Change Log from Version 0.8 to 0.8.1			
Date User	**Section**	**Table Name: Fields**	**Description**
5/12/99 MG			Sel00002 DataStructuresVer0.8 document created
05/24/99 TG	5.2.4	AlertSite406Sol: FreqFlag	Spr00243 Field added
05/26/99 MG			Sel00004 DataStructuresVer0.8.1 document created
5/26/99 MG			Current Status of MccOperational
5/26/99 MG			Current Status of MccTest

USMCC Data Structures

Fourth Generation
United States Mission Control Center
Data Structures

1 Introduction

1.1 Overview

Cospas-Sarsat is an international satellite system for search and rescue established and operated by Canada, France, Russia and the USA. The system uses radio-beacons, either manually or automatically activated, to alert search and rescue forces of an aircraft crash or maritime distress. Signals from radio-beacons are transmitted to low-earth orbiti or geo-stationary orbiting satellites. The signals are then relayed to earth ground stations called Local User Terminal (LUTs) and eventually to Mission Control Centers (MCCs). The USMCC is the focal point for Cospas-Sarsat operations in the United States. It collects and processes data from national LUTs, foreign MCCs and other data sources. It then distributes alert data to national Rescue Coordination Centers (RCCs), foreign SAR Points of Conta (SPOCs) and foreign MCCs.

Figure 1.1 presents an overview of the USMCC processing.

The USMCC uses a relational database management system designed specifically for distributed client-server computing to store and share all data associated with the USMCC. Microsoft SQL Server is used in a Windows NT environment to provide the database services.

1.2 Document Objective

This document describes the Microsoft SQL Server database structures used in the USMCC. The document contain: general information in Section 1 and information about the SQL server in Section 2. Sections 3 to 8 contain specific database and table structures for USMCC data.

Each table contains the field name, the key status, the size (in bytes) of the field, the data type and description for eac data element. The description contains an explanation of the data element, acceptable ranges, unit of measurement a default values of each data element.

This document is intended for computer programers developing or maintaining USMCC software and analysts that require access to USMCC data.

1.3 Reference Documents

More information on data elements can be found in the following documents:

a) “Data Transfer Specification,” TSI, October 6, 1993;

b) “Cospas-Sarsat Mission Control Centres Standard Interface Description,” C/S A.002, Issue 4, October 1996;

c) “CEMSCS - USMCC Interface Control Document,” September 1997.

2 SQL Server Characteristics

2.1 Introduction to SQL Server

The SQL server used by the USMCC is a scalable high-performance database management system designed for distributed client-server computing. It provides a centralized administration architecture and seamless integration wi desktop applications. The database server also provides for an open architecture for future expansion.

The database server provides the following features that are used by the USMCC:

d) fast access (faster sort and index capabilities) for Windows NT;

e) dynamic locking;

f) support for large databases;

g) ease of administration; and

h) SQL distributed management objects

2.2 Key and Index Fields

In the following tables, the column titled "Key" describes database keys or indexes. Every database key is required act as index, meaning that a direct (i.e., efficient) search can be performed with it. (If this is not done implicitly by S it should be done explicitly when a table is generated.) Any field that is defined as a database key has information in "Key" column in the form "X.Y[:ix]" or "X", where "X" identifies the relative number of the key. "X" is one (1) fo primary key for a database table, and greater than 1 for indexes. Note that SQL Database Standards require that all database tables have a primary key.

"Y" is used when a key is composed of multiple fields and indicates the order in which the fields define the key. Fo example, a key composed of "Lut", "Satellite" and "Orbit" would be described as "Lut" (Key X.1), "Satellite" (Key X.2) and "Orbit" (Key X.3).

Note that the indexes referenced in this document have not all been implemented, as of Version 0.2.1. The indexes t have been implemented have a suffix of **:ix** in the "Key" column, next to the index number, as in "2:ix". (Eventually every index will either be implemented or removed from the document.)

A "foreign key" is a column (field) or group of columns in a table that corresponds to a primary key in another table the database. In the following tables, a foreign key is indicated by the word "Foreign" in the "Key" column. The phrase <FK=TableName.FieldNames> appears in the "Description" column to indicate which Table and Field(s) the foreign key refers to. If the Field (.FieldNames) is not specified, then the field name or names is the same as in the t tables. If the foreign key is composed of multiple fields, then the field names are separated by a comma, as in <FK=T.Field1,Field2>.

2.3 Null and Default fields

Every field in a SQL Database Table is defined as nullable or not nullable. A field is nullable if it is not required tha be entered. A field that is required is not nullable. Note that a primary key in a SQL Database Table may not be nullable.

In the following tables, all fields are required (i.e., not nullable) unless explicitly defined to be nullable. Nullable fie are indicated by the phrase "Nullable" or "Nullable:t" in the Column entitled "Data Type".

The phrase "Nullable" indicates that a value for the field might not be entered because it does not exist; for example time that an Alert Site was closed is null until the Alert Site is closed.

The phrase "Nullable:t" indicates that the field value is not set temporarily, but is expected to be set right away (befo any user will access it). This serves two purposes. First, it is needed due to the use of secondary fields derived from Identity columns (eg. Field "AlertSiteNum5" in table "AlertSite123Sum" is derived from Identity column "AlertSiteNum"). Second, it is used as a convenience to allow programs to set a minimal set of fields when insertin row.

All SQL Database fields must either be nullable, have a default value or be set explicitly. Fields with default values indicated by the phrase "SQL Default is ???" in the Column entitled "Description", where ??? contains an appropria default value. The default value for any SQL "Datetime" field that has a default value is "Jan 01, 1900 00:00:00:000AM". Default values usually indicate a reasonable or ordinary value. However, sometimes they are us as a convenience for programming, to initialize a field that will be changed right away. (For instance, the field "NumPas" in table "AlertSite123Sum" has a default of zero, but logically always has a value greater than zero.)

2.4 Bit fields

If the "Data Type" is bit, then the field is boolean, where a value of 1 means "True" and a value of 0 means "False". The "Size" of a bit field is shown as (1), meaning 1 bit. The SQL Server will store up to 8 bits in 1 byte in the Database. Bit fields can not be used as an index.

2.5 The Identity attribute

"Identity" is an attribute that means that the SQL Server will increment the field value automatically when a row is added to a Database table. Typically, a primary key is defined as an Identity column in order to have the SQL Server maintain the unique sequence numbers. Fields that contain the Identity attribute have the word "Identity" or "Identit (x,y)" in the Column entitled "Data Type", where "x" indicates the Seed or Initial value and "y" indicates the Increm If "x" and "y" are not present, they are assumed to be one (1).

2.6 Databases, DataBase Owners and Database Tables

Within a SQL Database each Table has a Database Owner. The complete name of a SQL Table has a format of "Database.DatabaseOwner.TableName". For example, table "MccTest.DBO.InputProcess" refers to Table "InputProcess" owned by "DBO" in database "MccTest".

USMCC Data Structures

It is assumed that the Tables specified in this document apply to all USMCC databases, that is, to the MccOperationa MccTest and MccDeveloper databases. This document also assumes that the Database Owner is DBO, the SQL default, unless specified otherwise. Thus, this document normally presents TableNames without the Database or Database Owner qualifiers.

3 Input Data Structures

3.1 Unconverted (Undefined) Format Input Table

The Unconverted Format Input Table (Table 3.1.1) contains communication information and external formatted data when the type of data received by a Com Site is undefined, that is, when no conversion is performed on input data.

3.1.1: Input Data Structure, Unconverted Table (No Conversion)

Input Data Structure, Unconverted Table (No Conversion) ”UnconvertedIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
ComSiteName		16	varchar	Source (COM site name)
ComSitePathName		16	varchar	Communication Site Path Name
CircuitId	2 Foreign?	4	int	Com Circuit Id: First part of Unique Id of Com data
ComDataId	3 Foreign?	4	int	Data Id for Com Circuit: Second part of Unique Id of Com data
TextMsg		variable	text Nullable	Text Message received from external Source. Written only if message is all ASCII.
OutProcId		4	int Nullable	Output Processing Unique Id that resulted in this input message. Set when the Com Vendor returns the status of send request (eg., a cancellation or verification)
OutMsgId		4	int Nullable	Output Message Id Id that resulted in this input message. Set when the Com Vendor returns the status of send request (eg., a cancellation or verification)

3.2 Input Message and Input Processing Databases

The Input Processing Table (Table 3.2.1) is used to cause an application program to process an input message. An input message, identified by foreign key "InMsgId" in the Input Processing Table, is a group of data that are to be processed as a unit by an application program. For each input message there is a row in the Input Message Table (Table 3.2.2) that contains "InMsgId" as a primary key. An input message is comprised of one or more rows in one or more tables.

An entry (row) in the Input Processing Table, identified by field "InProcId", is created for each application program t is required to process an input message. An input message that has no application assigned to process it is written to the Input Message Table, but would not contain a corresponding entry in the Input Processing Table.

As input data is received by Communications, it is passed to the Com Data-Converter, which writes it to the appropriate Input Data Structure(s), as described in Sections 3.3 and 3.4. Once an input message has been written, the Com Data-Converter will create one or more entries in the Input Processing Table to make the message available to application programs. Since an application program may be polling the Input Processing Table at any time for ne data to process, an entry is written to this table only when an input message is entirely available for processing.

Note that the application is responsible for setting all Columns in the Input Process Table that have default values.

3.2.1 Input Processing Table

Input Processing Table ”InputProcess”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InProcId	1	4	int Identity	Input Processing Unique Id
InMsgId	2 Foreign	4	int	Input Message Id <FK=InputMessage>
MsgName		24	varchar	Input Message name (usually matches first or last level table name)
ComSiteName		16	varchar	Source (COM site name)
AddTime		8	datetime	Time record generated
SubsysId		4	char	Subsystem Identifier (When non-blank, row is ready to process by Subsystem)
SubsysDisp		1	char	Subsystem processing dispositon: ‘E’= Error in input ‘O’= Ok: no error (SQL Default is Blank)
SubsysBegTm		8	datetime Nullable	Subsystem begin time
SubsysEndTm		8	datetime Nullable	Subsystem end time

3.2.2 Input Message Table

Input Message Table "InputMessage"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1	4	int Identity	Input Message Id
MsgName	2, 4.2	24	varchar	Input Message name (usually matches first or last level table name)
Complete		(1)	bit	Message is logically complete
Error		(1)	bit	Error detected in Message
Test		(1)	bit	Message is test
Hold		(1)	bit	Hold Message from processing
ComSiteName	3, 4.1 Foreign?	16	varchar	Source (Logical COM site name). Corresponds to SarCode on MCC data.
ComSitePathName		16	varchar	Communication Site Path Name
TableName		24	varchar	Name of primary table
AddTime		8	datetime	Time record generated
DoneTime		8	datetime	Time record completed

3.3 LUT Input Tables

The PCR table (Table 3.3.1) is created by the communication process at the USMCC. The header tables (Tables 3.3.2 and 3.3.3) contain the header information from the “Data Transfer Specification”. The solution header tables (Tables 3.3.4 and 3.3.5) contain the solution information from the “Data Transfer Specification”.

Tables 3.3.6 to 3.3.12 contains the tag buffer, status message, pass schedule summary, pass schedule item, pass start, orbit vector and time calibration tables respectively. These tables contain support data for LUT operations.

3.3.1 LUT Input Data Structure, Pass Completion Report (PCR) Table

LUT Input Data Structure, Pass Completion Report (PCR) Table ”LutPcr”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Lut	2.1	3	char	Lut (matches Com Site name)
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
Sat	2.2	3	char	Satellite Id
Orbit	2.3	4	int	Orbit Number
PasBegId	3 Foreign?	4	int	Unique Id of Pass Begin message
PasEndId	4 Foreign?	4	int	Unique Id of Pass End message
Hdr121		(1)	bit	121 Header is Present flag
Hdr243		(1)	bit	243 Header is Present flag
HdrIntf		(1)	bit	406 Interferer Header is Present flag
HdrPds		(1)	bit	406 PDS Header is Present flag
HdrGsarp		(1)	bit	406 G-SARP Header is Present flag
Sol121Rcv		2	smallint	Number of 121 solutions received
Sol243Rcv		2	smallint	Number of 243 solutions received
SolIntfRcv		2	smallint	Number of 406 interferers received
SolPdsRcv		2	smallint	Number of 406 PDS solutions received
SolGsarpRcv		2	smallint	Number of 406 G-SARP solutions received

LUT Input Data Structure, Pass Completion Report (PCR) Table ”LutPcr”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Sol121Hdr		2	smallint	Number of 121 solutions in header
Sol243Hdr		2	smallint	Number of 243 solutions in header
SolIntfHdr		2	smallint	Number of 406 interferers in header
SolPdsHdr		2	smallint	Number of 406 PDS solutions in header
SolGsarpHdr		2	smallint	Number of 406 G-SARP solutions in header
Aos		8	datetime	Pass Acquisition of Signal time. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
Los		8	datetime	Pass Loss of Signal time. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
AddTime		8	datetime	Time PCR started
DoneTime		8	datetime	Time PCR completed

3.3.2 LUT Input Data Structure, 121/243/406I Header Table

LUT Input Data Structure, 121/243/406I Header Table ”Lut121Header”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
HeaderId	1	4	int Identity	Unique Id of Header
Lut	2.1	3	char	Lut (matches Com Site name)
Sat	2.2	3	char	Satellite Id
Orbit	2.3	4	int	Orbit Number
InMsgId	3:ix Foreign	4	int	Unique Id of Input message <FK=InputMessage>
TagId	4	4	int	Unique Id of Tag buffer
Func		2	smallint	The “Func” field in the Tag buffer determines the data type associated with a solution data block 2 121.5 MHz data 3 243 MHz data 4 406 MHz interferers
Aos		8	datetime	Time of Acquisition of Signal. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
Los		8	datetime	Time of Loss of Signal. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
Epoch		8	datetime	Epoch time for position and velocity vectors. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
SatXPos		4	real	Satellite X direction position vector
SatYPos		4	real	Satellite Y direction position vector
SatZPos		4	real	Satellite Z direction position vector
SatXVel		4	real	Satellite X direction velocity vector
SatYVel		4	real	Satellite Y direction velocity vector
SatZVel		4	real	Satellite Z direction velocity vector
OrbDif		4	real	Position difference from previous

LUT Input Data Structure, 121/243/406I Header Table ”Lut121Header”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumSols		2	smallint	Number of solutions to follow
Num123Crvs		2	smallint	Number of solutions = n_recs (future expansion) = n_123 _ n_123_intf
Num123Bcns		2	smallint	Number of beacon solutions
Num123Intf		2	smallint	Number of interferer solutions
DoneTime		8	datetime	Time LUT processing complete

3.3.3 LUT Input Data Structure, 406 Header Table

LUT Input Data Structure, 406 Header Table ”Lut406Header”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
HeaderId	1	4	int Identity	Unique Id of Header
Lut	2.1	3	char	Lut (matches Com Site name)
Sat	2.2	3	char	Satellite Id
Orbit	2.3	4	int	Orbit Number
InMsgId	3:ix Foreign	4	int	Unique Id of Input message <FK=InputMessage>
TagId	4	4	int	Unique Id of Tag buffer
Func		2	smallint	The “Func” field in the tag buffer determines the data type associated with a solution data block 5 2.4 kbps data 6 G-SARP data
Aos		8	datetime	Time of acquisition of signal. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
Los		8	datetime	Time of loss of signal. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
Epoch		8	datetime	Epoch time for position and velocity vectors. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
SatXPos		4	real	Satellite X position vector
SatYPos		4	real	Satellite Y position vector
SatZPos		4	real	Satellite Z position vector
SatXVel		4	real	Satellite X direction velocity vector
SatYVel		4	real	Satellite Z direction velocity vector
SatZVel		4	real	Satellite z direction velocity vector
OrbDif		4	real	Position difference from previous

LUT Input Data Structure, 406 Header Table ”Lut406Header”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumSols		2	smallint	The number of solutions to follow
Num406Msgs		2	smallint	The number of beacons (same as NumSols)
NumBcnMsgs		2	smallint	Spare (not currently used)
TmTagErr		2	smallint	Spare (not currently used)
NumInvFreq		2	smallint	Spare (not currently used)
Num406Bcns		2	smallint	Number of located beacons
FramesWd		2	smallint	Spare (not currently used)
DoneTime		8	datetime	Time LUT processing completed. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
TmPrevLm		8	datetime	Spare (not currently used)
TcalRoll		8	datetime	Spare (not currently used)
TcalUsof		8	float	Spare (not currently used)

3.3.4: LUT Input Data Structure, 121/243 and 406 Interferer Solution Tables

LUT Input Data Structure, 121/243 and 406 Interferer Solution Tables "Lut121Solution", "Lut406IntSolution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity (1,10)	Unique Id of Solution for "Lut121Solution"
			int Identity (6,10)	Unique Id of Solution for "Lut406IntSolution"
Lut	2.1	3	char	Lut (matches Com Site name)
Sat	2.2	3	char	Satellite Id
Orbit	2.3	4	int	Orbit Number
InMsgId	3:ix Foreign	4	int	Unique Id of Input message <FK=InputMessage>
HeaderId	4 Foreign?	4	int	Unique Id of Header (set with Tag Seqnum from PassDat file: temp)
TagId	5	4	int	Unique Id of Tag buffer
Func		2	smallint	The "Func" field in the tag buffer determines the data type associated with a solution data block 2 121.5 MHz data 3 243 MHz data 4 406 MHz interferers
SgLutId		2	smallint	SGLUT Internal Id
RecType		2	smallint	Type of data bit 0 on 121.5 MHz data bit 1 on 243 MHz data bit 3 on 406 MHz data
CorrScore		4	real	Correlation score, quality rating
SnRatio		4	real	Signal to noise ratio
SwpPeriod		4	real	Sweep period
SwpScore		4	real	Data quality rating (sweep score)
SwpShift		4	real	Sweep shift

LUT Input Data Structure, 121/243 and 406 Interferer Solution Tables ”Lut121Solution”, “Lut406IntSolution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_Prob		4	real	Probability that A is real solution
Points		2	smallint	Number of points on Doppler curve
TmFirstPt		2	smallint	Time of first point from TCA in seconds
TmCurve		2	smallint	Number of seconds covered by curve
A_Lat		4	real	Latitude location of A solution
A_Lon		4	real	Longitude location of A solution
A_Tca		8	datetime	Time of Closest Approach for A curve. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
A_Cta		4	real	Cross track angle for A curve
A_LatDev		4	real	A Standard Deviation of latitude
A_LonDev		4	real	A Standard Deviation of longitude
A_Corr		4	real	A latitude/longitude correlation
A_Noise		4	real	A measurement noise
A_Trend		4	real	A statistical measurement factor
A_FreqBias		4	real	A frequency bias of center of band
A_FBiasDev		4	real	A frequency bias standard deviation
A_FreqDrift		4	real	A frequency drift
B_Lat		4	real	Latitude location of B solution
B_Lon		4	real	Longitude location of B solution
B_Tca		8	datetime	Time of closest approach for B curve. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
B_Cta		4	real	Cross track angle for B curve
B_LatDev		4	real	B Standard Deviation of latitude
B_LonDev		4	real	B Standard Deviation of longitude

LUT Input Data Structure, 121/243 and 406 Interferer Solution Tables ”Lut121Solution”, “Lut406IntSolution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_Corr		4	real	B latitude/longitude correlation
B_Noise		4	real	B measurement noise
B_Trend		4	real	B statistical measurement factor
B_FreqBias		4	real	B frequency bias of center of band
B_FBiasDev		4	real	B frequency bias standard deviation
B_FreqDrift		4	real	B frequency drift
A_Major		4	real	A Error Ellipse - major axis (km)
A_Minor		4	real	A Error Ellipse - minor axis (km)
A_Heading		4	real	A Error Ellipse - heading (degrees)
A_EeRadius		4	real	A Error Ellipse - radius (km)
A_EeArea		4	real	A Error Ellipse - area (km^2)
B_Minor		4	real	B Error Ellipse - minor axis (km)
B_Major		4	real	B Error Ellipse - major axis (km)
B_Heading		4	real	B Error Ellipse - heading (degrees)
B_EeRadius		4	real	B Error Ellipse - radius (km)
B_EeArea		4	real	B Error Ellipse - area (km^2)
TcaWindow		1	tinyint	Window flag 0 TCA in Doppler curve 1 TCA outside of Doppler curve
Conf		1	tinyint	Confidence factor Expected Circular Error (km) / Window Flag 0 / 1 < 5: 4 3 $ 5, < 20: 3 2 $ 20: 1 1
LutSolId		4	int	Unique Id for solution at LUT
A_NumIter		1	tinyint	Number of iterations (always 0)

LUT Input Data Structure, 121/243 and 406 Interferer Solution Tables ”Lut121Solution”, “Lut406IntSolution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_NumIter		1	tinyint	Number of iterations (always 0)

3.3.5: LUT Input Data Structure, 406 Solution Table

LUT Input Data Structure, 406 Solution Table "Lut406Solution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity (2,10)	Unique Id of solution
Lut	2.1	3	char	Lut (matches Com Site name)
Sat	2.2	3	char	Satellite Id
Orbit	2.3	4	int	Orbit Number
InMsgId	3:ix Foreign	4	int	Unique Id of Input message <FK=InputMessage>
HeaderId	4 Foreign?	4	int	Unique Id of header (set with Tag Seqnum from PassDat file: temp)
TagId	5	4	int	Unique Id of tag buffer
Func		2	smallint	The "Func" field in the tag buffer determines the data type associated with a solution data block bit 5 on 2.4 kbps data bit 6 on G-SARP data
SgLutId		2	smallint	SGLUT internal Id
RecType		2	smallint	Type of data bit 2 on 2.4 kbps data, 406 G-SARP data, or 2.4-G-SARP merged bit 3 off always zero bit 4 on always on bit 5 on unlocated or detect only bit 6 on 2.4 kbps global data
BcnId15	6	15	char	406 Beacon Id code (bits 26-85) , with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144)
A_Prob		4	real	Probability that A is real solution

LUT Input Data Structure, 406 Solution Table ”Lut406Solution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Points		2	smallint	Number of points on Doppler curve
TmFirstPt		2	smallint	Time of first point from TCA in seconds
TmCurve		2	smallint	Number of seconds covered by curve
A_Lat		4	real	Latitude location of A solution
A_Lon		4	real	Longitude location of A solution
A_Tca		8	datetime	Time of closest approach for A curve. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
A_Cta		4	real	Cross track angle for A curve
A_LatDev		4	real	A Standard Deviation of latitude
A_LonDev		4	real	A Standard Deviation of longitude
A_Corr		4	real	A latitude/longitude correlation
A_Noise		4	real	A measurement noise
A_Trend		4	real	A statistical measurement factor
A_FreqBias		4	real	A frequency bias of center of band
A_FBiasDev		4	real	A standard Deviation frequency bias
A_FreqDrift		4	real	A frequency drift
B_Lat		4	real	Latitude location of B solution
B_Lon		4	real	Longitude location of B solution
B_Tca		8	datetime	Time of closest approach for B curve. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
B_Cta		4	real	Cross track angle for B curve
B_LatDev		4	real	B Standard Deviation of latitude
B_LonDev		4	real	B Standard Deviation of longitude
B_Corr		4	real	B latitude/longitude correlation
B_Noise		4	real	B measurement noise

LUT Input Data Structure, 406 Solution Table "Lut406Solution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_Trend		4	real	B statistical measurement factor
B_FreqBias		4	real	B frequency bias of center of band
B_FBiasDev		4	real	B standard Deviation frequency bias
B_FreqDrift		4	real	B frequency drift
A_Minor		4	real	A Error Ellipse - minor axis (km)
A_Major		4	real	A Error Ellipse - major axis (km)
A_Heading		4	real	A Error Ellipse - heading (degrees)
A_EeRadius		4	real	A Error Ellipse - radius (km)
A_EeArea		4	real	A Error Ellipse - area (km^2)
B_Minor		4	real	B Error Ellipse - minor axis (km)
B_Major		4	real	B Error Ellipse - major axis (km)
B_Heading		4	real	B Error Ellipse - heading (degrees)
B_EeRadius		4	real	B Error Ellipse - radius (km)
B_EeArea		4	real	B Error Ellipse - area (km^2)
TcaWindow		1	tinyint	Window flag 0 TCA in Doppler curve 1 TCA outside of Doppler curve
Conf		1	tinyint	Confidence factor Expected Circular Error (km) / Window Flag 0, 1 < 5: 4, 3 $ 5, < 20: 3, 2 $ 20: 1, 1
LutSolId		4	int	Unique Id for solution at LUT
A_NumIter		1	tinyint	A number of iterations (always 0)
B_NumIter		1	tinyint	B number of iterations (always 0)

3.3.6: LUT Input Data Structure, Tag Buffer Table

LUT Input Data Structure, Tag Buffer Table ”LutTagBufferIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
TagId	1	4	int Identity	Unique Id of Tag Buffer
InMsgId	2 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
CircuitId	3 Foreign?	4	int	Com Circuit Id: First part of Unique Id of Com data
ComDataId	4 Foreign?	4	int	Data Id for Com Circuit: Second part of Unique Id of Com data
Lut		3	char	Lut (matches Com Site name)
Func		2	smallint	The “Func” field in the tag buffer determines the data type of the associated data block 1 Lut Status message 2 121.5 MHz data 3 243 MHz data 4 406 MHz interferers 5 2.4 k bps data 6 G-SARP data 7 Pass completion report 8 Pass Schedule 9 Narrative Message 10 Time Calibration 11 ASCII Information 12 Acknowledgement 21 Pass Start Message 22 Pass ReStart Message 23 Orbit Vector 27 Lut Pass Schedule Request 30 USMCC Status Message 40 Lut File Transfer (eg., Pass Schedule File Transfer) 48 Status Request 51 Pass Schedule Activation
AckRequired		(1)	bit	Acknowledgement required: 1 = Yes

LUT Input Data Structure, Tag Buffer Table ”LutTagBufferIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Srce		2	smallint	Identification code for sender *Complete list needs to be provided.* Does not include the acknowledgement required bit.
Dest		2	smallint	Identification code for destination
BlkSize		2	smallint	Number of bytes in data block
MsgNum		2	smallint	Internal message reference number
MsgSeqNum		2	smallint	Sequence number (Tag buffer) within an associated file
Error		2	smallint	Storage for error flags
TagChkSum		2	smallint	Checksum for tag buffer only
DataChkSum		2	smallint	Checksum for tag buffer and data

3.3.7: LUT Input Data Structure, Status Messages Table

LUT Input Data Structure, Status Messages Table ”LutStatus”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
TagId	1	4	int	Unique Id of tag buffer
Lut	2.1	3	char	Lut (matches Com Site name)
Sat	2.2	3	char	Satellite Id
Orbit	2.3	4	int	Orbit Number
InMsgId	3:ix Foreign	4	int	Unique Id of Input message <FK=InputMessage>
Func		2	smallint	The “Func” field in the tag buffer determines the data type associated with a solution data block 1 Status message 7 Pass completion report
State		2	smallint	Current LUT processing status 0 not up 1 startup 2 restart 3 shutdown 4 abort 5 idle 6 wait 7 testing 8 prepass 9 realtime 10 playback 11 pass LOS 12 postpass 13 re-process 14 diskpack 15 manual 16 sampling
Aos		8	datetime	AOS. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
Los		8	datetime	LOS. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.

LUT Input Data Structure, Status Messages Table ”LutStatus”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Status121		2	smallint	status of 121.5 process/module
Status243		2	smallint	Status of 243 process
StatusPds		2	smallint	Status of PDS process
Status406		2	smallint	Status of 406 process
StatusIntf		2	smallint	Status of interferer process
StatusSwp		2	smallint	Status of sweep process

3.3.8: LUT Input Data Structure, Pass Schedule Summary Table

LUT Input Data Structure, Pass Schedule Summary Table ”LutSchedSumIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
Lut		3	char	Lut (matches Com Site name)
NumPasses		4	int	Number of Passes in Pass Schedule
BlockNum		4	int	Number of Blocks (Tag Buffers) in Pass Schedule
AddTime		8	datetime	Time Pass Schedule started
DoneTime		8	datetime	Time Pass Schedule completed

3.3.9: LUT Input Data Structure, Pass Schedule Item Table

LUT Input Data Structure, Pass Schedule Item Table ”LutSchedItemIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PasId	1	4	int Identity	Unique Id of Pass Schedule Item
Lut	2.1	3	char	Lut (matches Com Site name)
Sat	2.2	3	char	Satellite Id
Orbit	2.3	4	int	Orbit Number
InMsgId	3:ix Foreign	4	int	Unique Id of Input message <FK=InputMessage>
TagId	4	4	int	Unique Id of Tag Buffer
Aos		8	datetime	Acquisition of signal time. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
Los		8	datetime	Loss of signal time. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
AzmAos		2	smallint	Azimuth at AOS
AzmLos		2	smallint	Azimuth at LOS
TimeEqu		8	datetime	Time of crossing the equator. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
LonEqu		4	real	Longitude for crossing the equator
NsBound		2	smallint	Northbound or southbound (+1 if the satellite is traveling south to north, -1 if north to south)

LUT Input Data Structure, Pass Schedule Item Table "LutSchedItemIn"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PassOpt		2	smallint	Option flag for whether pass is taken 0 scheduled (forced) 1 scheduled 2 data only 3 postpass conflict 4 realtime conflict 5 too short 6 suppressed 7 conflict with previous pass

3.3.10: LUT Input Data Structure, Pass Start (and Restart) Table

LUT Input Data Structure, Pass Start (and Restart) Table "LutPassStart"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
Lut	2.1	3	char	Lut (matches Com Site name)
Sat	2.2	3	char	Satellite Id
Orbit	2.3	4	int	Orbit Number
TagId	3	4	int	Unique Id of Tag Buffer
Status		1	char	Pass Status: '1' LUT can not supply Pass

3.3.11: LUT Input Data Structure, Orbit Vector Table

LUT Input Data Structure, Orbit Vector Table ”LutOrbitVectorIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
TagId	2	4	int	Unique Id of Tag Buffer
Lut	3.1	3	char	Lut (matches Com Site name)
Sat	3.2	3	char	Satellite Id
Epoch		8	datetime	Epoch time for position and velocity vectors. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
SatXPos		8	float	Satellite X position vector in km
SatYPos		8	float	Satellite Y position vector in km
SatZPos		8	float	Satellite Z position vector in km
SatXVel		8	float	Satellite X direction velocity in km/sec
SatYVel		8	float	Satellite Y direction velocity in km/sec
SatZVel		8	float	Satellite Z direction velocity in km/sec
ValidFlag		2	smallint	Data valid flag: 0 No 1 Yes

3.3.12: LUT Input Data Structure, Time Calibration Table

LUT Input Data Structure, Time Calibration Table ”LutTimeCalIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
TagId	2	4	int	Unique Id of Tag Buffer
Lut	3.1	3	char	Lut (matches Com Site name)
Sat	3.2	3	char	Satellite Id
Orbit	3.3	4	int	Orbit number
RollTime		8	datetime	Time at which USO (on board clock) rolled over. The value “Jan 1 1900 00:00.00" indicates that the date is invalid.
UsoFreq		4	real	Oscillator frequency that was measured at RollTime in Hz?
ValidFlag		2	smallint	Data valid flag: 0 No 1 Yes

3.3.13: LUT Input Data Structure, NarrativeText Table

A narrative message is a block of ASCII character data. The maximum block size (field “NarrText”) is 2000 bytes.

When the MCC sends a Pass Schedule Change request, the LUT will return the following narrative message: “Rx: II orbit flag”, where x is 0 if the schedule has been successfully changed and 1 if the request is invalid, 2 through 9 if tl was a disk access. The ID, orbit and flag are those sent from the MCC.

LUT Input Data Structure, NarrativeText Table ”LutNarTextIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
TagId	2	4	int	Unique Id of Tag Buffer
Lut		3	char	Lut (matches Com Site name)
NarrText			text	Narrative text field.

3.4 MCC Input Database

The MCC Input Database is comprised of database tables and indexes to store system, beacon and signal data from the foreign MCCs. The communications process receives the MCC data and immediately stores it in the database in external format, as described in section (3.1 -- no, is Column in a Com Table.. Then the data is converted into one (c more) of the formats detailed in Tables 3.4.1 - 3.4.?.

3.4.1: MCC Input Data Structure, SIT Header Table

MCC Input Data Structure, SIT Header Table ”SitHeaderIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
CircuitId	2 Foreign?	4	int	Com Circuit Id: First part of Unique Id of Com data
ComDataId	3 Foreign?	4	int	Data Id for Com Circuit: Second part of Unique Id of Com data
SitCnt		1	tinyint	Count of Sit within SIT Header: > 1 for secondary SIT in Multi Sit message. On a Multi-Sit message, only fields InMsgId, SitCnt, SitNum, SitNumType, DestMcc and ItemNum may vary per Sit.
ComSiteName	4.1	16	varchar	Source (COM site name)
CurMsgNum	4.2	4	int	Current message number (range 0 to 99999)
OrgMsgNum	5?	4	int	Original message number (0 to 99999; 0 if not a retransmission)
ReportMcc		4	char	Id code of MCC sending the current message (list provided in Annex B of SID)
SendTime		8	datetime	Time the current message is placed on the communication channel by the reporting MCC
SitNum		2	smallint	SIT number of current message

MCC Input Data Structure, SIT Header Table ”SitHeaderIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SitNumType		1	char	SIT number type: defines format within Sit number, where needed. Sit 115/125/133: ‘N’= New Sit format, ‘O’= Old Sit format, as determined per ComSite. SQL Default is Blank
DestMcc		4	char	Id code of receiving MCC (next destination of the SIT message; see Annex B in SID)
ItemNum		2	smallint	Number of Items (eg., satellites or solutions) in Sit message: range 0 to 99. (SQL Default is -1)
TextMsg		variable	text	Text Message received from external Source, formatted for a “Dumb” Viewer

3.4.2: MCC Input Data Structure, 121/243/406I Solution Table

(SITs *114*,115,117,121,*131*)

MCC Input Data Structure, 121/243/406I Solution Table "Sit121SolutionIn", "Sit406IntSolution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity (3,10)	Unique Id of Solution
InMsgId	2:ix Foreign	4	int	Unique Id of Input message <FK=InputMessage>
ComSiteName	3.1	16	varchar	Source (COM site name)
Sat		3	char	Satellite Id
SourceId		2	smallint	Identification code of MCC/LUT that originally provided the solution
GlobalFlag		1	char	Local/Global flag. Local + Global -
FreqFlag		1	char	Frequency flag 1 121.5 2 243 3 121.5/243 4 406 PDS 5 121.5/406 6 243/406 7 121.5/243/406 8 406 G-SARP 9 406 PDS/G-SARP
FreqBias		4	real	Frequency bias in Hz (range -25000.0 to +75000.0, default +99999.9)
FBiasDev		4	real	Standard Deviation of bias measurement in Hz (range 000.0 to 900.0, default 999.9)
FreqDrift		4	real	Rate of frequency change in Hz/min (range +00.00 to + 99.00, default 99.99)
Tca		8	datetime	Time of closest approach

MCC Input Data Structure, 121/243/406I Solution Table "Sit121SolutionIn", "Sit406IntSolution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
TcaWindowOld		1	tinyint	Window Factor (range 0 to 1) 0 TCA included in Doppler curve 1 TCA not in Doppler curve (Old Sits only, SQL Default is 99)
TcaWindow		1	tinyint	Window Factor (range 0 to 9): 0 TCA included in Doppler curve 1->9 TCA not in Doppler curve (New Sits only, SQL Default is 99)
NumIter		1	tinyint	Number of iterations (range 1 to 9, default is 0)
Cta		4	real	Cross track angle (range 00.000 to 33.000)
Power		2	smallint	Estimated power indicator in mw (range 1 to 9999, default is 0)
SidebandNum		1	tinyint	Number of sideband components that have been removed or merged (range 0 to 99, default is 0)
SwpPeriod		2	smallint	Sweep period in msec (range 1 to 9999, default is 0)
SwpPerDev		1	tinyint	Sweep period standard Deviation (range 1 to 90, default 99)
A_Srr		2	smallint	MID code of MCC in whose service area the A position is (see Annex B in SID)
A_Xmit		1	char	A position Transmit flag: - transmitted + not transmitted (SID default) (Sent for Old Sits only, SQL Default is blank)

MCC Input Data Structure, 121/243/406I Solution Table ”Sit121SolutionIn”, “Sit406IntSolution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_Ab		1	char	Ambiguity resolution flag + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (New Sits only, SQL Default is blank)
A_Lat		4	real	A latitude (range ± 00.000 to ± 89.999) + is north
A_Lon		4	real	A longitude (range ± 000.000 to ± 179.999) + is east
A_Heading		2	smallint	A Error Ellipse heading in degrees (range 0 to 359)
A_Major		4	real	A major axis in km (range 000.1 to 999.9)
A_Minor		4	real	A minor axis in km (range 000.1 to 999.9)
A_Prob		1	tinyint	A probability in percent (range 0 to 99)
A_NxtVisTm		8	datetime	A next time of visibility (SQL Default is Jan 01, 1900 00:00:00:000AM)
A_Conf		1	tinyint	A confidence factor (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
A_Noise		4	real	A Measurement Noise: Standard Deviation of the actual data points to the solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)

MCC Input Data Structure, 121/243/406I Solution Table ”Sit121SolutionIn”, “Sit406IntSolution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_Trend		4	real	A Standard Deviation on the time shifted solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
B_Srr		2	smallint	MID code of MCC in whose service area the B position is (see Annex B in SID)
B_Xmit		1	char	B position Transmit flag: - transmitted + not transmitted (SID default) (Sent for Old Sits only, SQL Default is blank)
B_Ab		1	char	Ambiguity resolution flag: + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (New Sits only, SQL Default is blank)
B_Lat		4	real	B latitude (range ± 00.000 to ± 89.999) + is north
B_Lon		4	real	B longitude (range ± 000.000 to ± 179.999) + is east
B_Heading		2	smallint	B Error Ellipse heading in degrees (range 0 to 359)
B_Major		4	real	B major axis in km (range 000.1 to 999.9)
B_Minor		4	real	B minor axis in km (range 000.1 to 999.9)
B_Prob		1	tinyint	B probability in percent (range 0 to 99)
B_NxtVisTm		8	datetime	B next time of visibility (SQL Default is Jan 01, 1900 00:00:00:000AM)

MCC Input Data Structure, 121/243/406I Solution Table ”Sit121SolutionIn”, “Sit406IntSolution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_Conf		1	tinyint	B confidence factor (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
B_Noise		4	real	B Measurement Noise: Standard Deviation of the actual data points to the solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
B_Trend		4	real	B Standard Deviation on the time shifted solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)

3.4.3: MCC Input Data Structure, 406/No Doppler Solution Table

(SITs 122,123,124,132,*135*)

MCC Input Data Structure, 406/No Doppler Solution Table ”Sit406SolNoDoplrIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity (4,10)	Unique Id of Solution
InMsgId	2:ix Foreign	4	int	Unique Id of Input message <FK=InputMessage>
ComSiteName		16	varchar	Source (COM site name)
Sat		3	char	Satellite Id
SourceId		2	smallint	Identification code of MCC/LUT that originally provided the solution
FreqBias		4	real	Frequency bias in Hz (range -25000.0 to +75000.0, default +99999.9) Not in Sit 135: SQL Default is +99999.9)
FBiasDev		4	real	Standard Deviation of bias measurement in Hz (range 000.0 to 900.0, default 999.9). Not in Sit 135: SQL Default is 999.9.
FreqDrift		4	real	Rate of frequency change in Hz/min (range +00.00 to + 99.00, default 99.99). Not in Sit 135: SQL Default is 99.99.
Tca		8	datetime	Time of last data point
Points		1	tinyint	Number of points (range 0 to 99)
BcnId15	3	15	char	406 Beacon Id code (bits 26-85), with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144), hexadecimal character

3.4.4: MCC Input Data Structure, 406/Doppler Solution Table

(SITs 125,126,127,133,*134*)

MCC Input Data Structure, 406/Doppler Solution Table "Sit406SolDopplerIn"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity (5,10)	Unique Id of Solution
InMsgId	2:ix Foreign	4	int	Unique Id of Input message <FK=InputMessage>
ComSiteName		16	varchar	Source (COM site name)
Sat		3	char	Satellite Id
SourceId		2	smallint	Identification code of MCC/LUT that originally provided the solution
GlobalFlag		1	char	Local/Global flag. Local + Global -
FreqFlag		1	char	Frequency flag 1 121.5 2 243 3 121.5/243 4 406 PDS 5 121.5/406 6 243/406 7 121.5/243/406 8 406 G-SARP 9 406 PDS/G-SARP
FreqBias		4	real	Frequency bias in Hz (range -25000.0 to +75000.0, default +99999.9)
FBiasDev		4	real	Standard Deviation of bias measurement in Hz (range 000.0 to 900.0, default 999.9)
FreqDrift		4	real	Rate of frequency change in Hz/min (range +00.00 to + 99.00, default 99.99)
Tca		8	datetime	Time of closest approach

MCC Input Data Structure, 406/Doppler Solution Table "Sit406SolDopplerIn"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
TcaWindowOld		1	tinyint	Window Factor (range 0 to 1): 0 TCA included in Doppler curve 1 TCA not in Doppler curve (Old Sits only, SQL Default is 99)
TcaWindow		1	tinyint	Window Factor (range 0 to 9): 0 TCA included in Doppler curve 1->9 TCA not in Doppler curve (New Sits only, SQL Default is 99)
NumIter		1	tinyint	Number of iterations (range 1 to 9, default is 0)
Cta		4	real	Cross track angle (range 00.000 to 33.000)
Power		2	smallint	Estimated power indicator in mw (range 1 to 9999, default is 0)
Points		1	tinyint	Number of points (range 1 to 99, default is 0)
BcnId15	3	15	char	406 Beacon Id code (bits 26-85), with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144), hexadecimal character
A_Srr		2	smallint	MID code of MCC in whose service area the A position is (see Annex B in SID)
A_Xmit		1	char	A position Transmit flag: - transmitted + not transmitted (SID default) (Sent for Old Sits only, SQL Default is blank)

MCC Input Data Structure, 406/Doppler Solution Table ”Sit406SolDopplerIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_Ab		1	char	Ambiguity resolution flag: + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (New Sits only , SQL Default is blank)
A_Lat		4	real	A latitude (range ± 00.000 to ± 89.999) + is north
A_Lon		4	real	A longitude (range ± 000.000 to ± 179.999) + is east
A_Heading		2	smallint	A Error Ellipse heading in degrees (range 0 to 359)
A_Major		4	real	A major axis in km (range 000.1 to 999.9)
A_Minor		4	real	A minor axis in km (range 000.1 to 999.9)
A_Prob		1	tinyint	A probability in percent (range 0 to 99)
A_NxtVisTm		8	datetime	A next time of visibility (SQL Default is Jan 01, 1900 00:00:00:000AM)
A_Conf		1	tinyint	A confidence factor (range 1 to 4): 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
A_Noise		4	real	A Measuremnt Noise: Standard Deviation of the actual data points to the solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)

MCC Input Data Structure, 406/Doppler Solution Table "Sit406SolDopplerIn"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_Trend		4	real	A Trend Factor: Standard Deviation on the time shifted solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
B_Srr		2	smallint	MID code of MCC in whose service area the B position is (see Annex B in SID)
B_Xmit		1	char	B position Transmit flag: - transmitted + not transmitted (SID default) (Sent for Old Sits only, SQL Default is blank)
B_Ab		1	char	Ambiguity resolution flag: + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (New Sits only, SQL Default is blank)
B_Lat		4	real	B latitude (range ± 00.000 to ± 89.999) + is north
B_Lon		4	real	B longitude (range ± 000.000 to ± 179.999) + is east
B_Heading		2	smallint	B Error Ellipse heading in degrees (range 0 to 359)
B_Major		4	real	B major axis in km (range 000.1 to 999.9)
B_Minor		4	real	B minor axis in km (range 000.1 to 999.9)
B_Prob		1	tinyint	B probability in percent (range 0 to 99)
B_NxtVisTm		8	datetime	B next time of visibility (SQL Default is Jan 01, 1900 00:00:00:000AM)

MCC Input Data Structure, 406/Doppler Solution Table ”Sit406SolDopplerIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_Conf		1	tinyint	B confidence factor (range 1 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
B_Noise		4	real	B Measurement Noise: Standard Deviation of the actual data points to the solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
B_Trend		4	real	B Trend Factor: Standard Deviation on the time shifted solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)

3.4.5: MCC Input Data Structure, Orbit Vector Satellite Header Table

(SIT 215)

MCC Input Data Structure, Orbit Vector Satellite Header Table ”SitOrbVecSatHdrIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SatHdrId	1	4	int Identity	Unique Id of Satellite Header
InMsgId	2 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
ComSiteName		16	varchar	Source (COM site name)
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number range (0 to 99999)
OvNum		2	smallint	Number of Vectors for Satellite

3.4.6 MCC Input Data Structure, Orbit Vector Element Table

(SIT 215)

MCC Input Data Structure, Orbit Vector Element Table ”SitOrbitVectorIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identity	Unique Id of Record
InMsgId	2 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
SatHdrId	3 Foreign	4	int	Unique Id of Satellite Header <FK=SitOrbVecSatHdrIn>
ComSiteName		16	varchar	Source (COM site name)
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number range (0 to 99999)
Epoch		8	datetime	Epoch time for position and velocity vectors
SatXPos		8	float	Satellite X position vector in km (range ± 0000.0000 to ± 9999.9999)
SatYPos		8	float	Satellite Y position vector in km (range ± 0000.0000 to ± 9999.9999)
SatZPos		8	float	Satellite Z position vector in km (range ± 0000.0000 to ± 9999.9999)
SatXVel		8	float	Satellite X direction velocity in km/sec (range ± 000.00000 to ± 999.99999)
SatYVel		8	float	Satellite Y direction velocity in km/sec (range ± 000.00000 to ± 999.99999)
SatZVel		8	float	Satellite Z direction velocity vector in km/sec (range ± 000.00000 to ± 999.99999)

3.4.7: MCC Input Data Structure, 406/Time Calibration Table

(SIT 415)

MCC Input Data Structure, 406/Time Calibration Table ”SitTimeCalIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identity	Unique Id of Calibration Record
InMsgId	2 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
ComSiteName		16	varchar	Source (COM site name)
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number (range 0 to 99999)
RollTime		8	datetime	Time at which USO (on board clock) rolled over
UsoFreq		8	float	Oscillator frequency that was measured at RollTime in Hz (range 0.0 to 9999999.999)

3.4.8: MCC Input Data Structure, Narrative Text Table

(SITs 416, 425, 445, 515, 525, 545, 605, 915)

MCC Input Data Structure, Narrative Text Table ”SitNarTextIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
ComSiteName		16	varchar	Source (COM site name)
NarrText			text	Narrative text field (message field 42)

3.4.9: MCC Input Data Structure, SARP/SARR Command Request HeaderTable

(SITs 435,535)

MCC Input Data Structure, SARP/SARR Command Request Header Table ”SitSpaceCmdReqHdrIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SatHdrId	1	4	int Identity	Unique Id of Satellite Header
InMsgId	2 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
ComSiteName		16	varchar	Source (COM site name)
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number (range 0 to 99999)
ProcNum		2	smallint	Number of Procedures for command request (in table “SitSpaceCmdReqIn”)

3.4.10: MCC Input Data Structure, SARP/SARR Command Request Item Table

(SITs 435,535)

MCC Input Data Structure, SARP/SARR Command Request Item Table ”SitSpaceCmdReqIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identity	Unique Id of Record
InMsgId	2 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
SatHdrId	3 Foreign	4	int	Unique Id of Satellite Header <FK=SitSpaceCmdReqHdrIn>
ComSiteName		16	varchar	Source (COM site name)
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number (range 0 to 99999)
ProcName		8	char	Procedure name as defined in TCP document

MCC Input Data Structure, SARP/SARR Command Request Item Table ”SitSpaceCmdReqIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ExecTime		8	datetime	The time the command procedure is to be executed

3.4.11: MCC Input Data Structure, 406 Beacon Registration Information Table

(SIT 925)

MCC Input Data Structure, 406 Beacon Registration Information Table ”Sit406BcnRegIn”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
ComSiteName		16	varchar	Source (COM site name)
BcnId15	2	15	char	406 Beacon Id code (bits 26-85), with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144), hexadecimal character
NarrText			text	narrative text

3.5 CEMSCS (NESDIS) Input Database

Input from CEMSCS (Nesdis) is provided via File Transfer Protocol (FTP), in a directory (\\usmcc\ftp\Nesdis-Ipd) o the USMCC File Server. CEMSCS places Ephemeris and Telemetry data in this directory.

The USMCC (System Data Processor) continually looks for Telemetry data files on the USMCC File Server, which are identified by characters “SARM” in bytes 5 - 8 of the 44 character File Name. When the USMCC finds a Telemetry file, it will generate an entry in the InputMessage table, the TelemetryPassSum table and the InputProcess table, to make it available for further USMCC processing.

Due to the volume and raw nature of this Telemetry data, it is not written directly to an SQL Table, but is referenced an SQL Table. The directory and file name of the Telemetry data is provided in the TelemetryPassSum table in Sect 8.6.1.

3.5 CEMSCS (NESDIS) Input Database

Input from CEMSCS (Nesdis) is provided via File Transfer Protocol (FTP), in a directory (\\usmcc\ftp\Nesdis-Ipd) o the USMCC File Server. CEMSCS places Ephemeris and Telemetry data in this directory.

The USMCC (System Data Processor) continually looks for Telemetry data files on the USMCC File Server, which are identified by characters “SARM” in bytes 5 - 8 of the 44 character File Name. When the USMCC finds a Telemetry file, it will generate an entry in the InputMessage table, the TelemetryPassSum table and the InputProcess table, to make it available for further USMCC processing.

Due to the volume and raw nature of this Telemetry data, it is not written directly to an SQL Table, but is referenced an SQL Table. The directory and file name of the Telemetry data is provided in the TelemetryPassSum table in Sect 8.6.1.

The Telemetry data file is a series on 1740 byte records, where the first record contains the 44 character EBCDIC fil name defined by CEMSCS/NESDIS. Subsequent records contain 10 occurences of 174 byte Telemetry blocks. The last record will contain a fill character of Hexadecimal FF in all bytes of any unused blocks.

4 Output Data Structures

4.1 Unconverted (Undefined) Format Output Table

The Unconverted Format Output Table (Table 4.1.1) contains external formatted data when the type of data to be sent to a Com Site is undefined., that is, when no conversion is to be performed on output data. When this format is used, a 'dummy' entry in the Sit Header should be made per message destination, where the Sit Number is set to zero to indicate that no conversion is to be performed.

4.1.1: Output Data Structure, Unconverted Table (No Conversion)

Output Data Structure, Unconverted Table (No Conversion) "UnconvertedOut"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
TextMsg		variable	text	(Text) Message to send

4.2 Output Message and Output Processing Tables

The Output Processing Table (Table 4.2.1) is used to cause the Communications program to send an output message (or to process a command). An output message, identified by foreign key "OutMsgId" in the Output Processing Tab is a group of data that are to be transmitted as a unit to a Com destination. For each output message there is a row ir the Output Message Table (Table 4.2.2) that contains "OutMsgId" as a primary key. Note that an output message is comprised of one or more rows in one or more tables.

An entry (row) in the Output Processing Table, identified by field "OutProcId", is written by an application program each Com destination (field "ComSiteName") that is supposed to receive a particular output message. Since at any time Com may be polling the Output Processing Table for new data to process, an entry shall be written to this table only when an output message is entirely available for processing.

In addition, an entry in the table with a default Com destination name is processed as a Command for Com. (Note: command processing is probably a separate table.)

Once an application programs has written an entry in the Output Processing Table, the Communications Data-Converter will read the entry. The Com Data-Converter uses fields "SitNum" and "SitNumType" to determine how the Output Message is to be converted. ("SitNum" can be set to any value, as long as this value is defined for the Da Converter. This allows the Data Converter to build output messages that are not in SID format,.) The Com Data-Converter will then read items in the appropriate Output Data Structure(s), as described in Section 4.4, convert them external format, and give them to Com to transmit.

Communications is responsible for setting all Columns in the Output Processing Header Table that have default valu except where noted in the Description that "Field is not set by Com".

This table contains fields in the output Sit Header, such as "SitNum" and "DestMcc". Such fields are prefixed with phrase "Sit Header" in the Description.

4.2.1: Output Processing Table

Output Processing Table ”OutputProcess”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutProcId	1	4	int Identity	Output Processing Unique Id
OutMsgId	2:ix Foreign	4	int	Output Message Id <FK=OutputMessage>
MsgName	8.2	24	varchar	Output Message name (usually matches first or last level table name)
TableName		24	varchar	Name of primary table
AddTime	3:ix	8	datetime	Time record generated
ComSiteName	4.1,5, 8.1 Foreign?	16	varchar	Logical Com site name (Destination): When non-blank, row is ready to process by Com
ComSitePathName		16	varchar Nullable	Communication Site Path Name (set by application only if message must go via a specific path, otherwise set by Com)
SendDisp		1	char	Com send disposition: ~~‘A’=Lut Acknowledgement, Send ok~~ ‘B’= Send began ‘C’= Config error, no send ‘D’= Data error, no send ‘E’= Send error ‘F’= File i/o error, no send ‘O’= Send completed ok ‘Q’= Data queued to send ‘X’= Forced closed by Operator (eg., as part of retransmission request) ~~‘P’= Message receipt (Email)~~ ~~‘R’= Message read (Email)~~ ~~‘S’= Send done, is suspect (delete)~~ ~~‘U’=Undelivered (Email)~~ ~~‘V’=Delivered (Email)~~ (SQL Default is Blank)
CircuitId	6 Foreign?	4	int	Com Circuit Id: First part of Unique Id of Com data. (SQL Default is 0)

Output Processing Table "OutputProcess"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ComDataId	7 Foreign?	4	int	Data Id for Com Circuit: Second part of Unique Id of Com data . (SQL Default is 0)
ComBegTm		8	datetime Nullable	Com processing begin time: time data read or queued to send
ComEndTm		8	datetime Nullable	Com processing end time: time send done
SitCnt		1	tinyint	Number of Sits in Output message, usually = 1. If SitCnt > 1, the SitNum, SitNumType, DestMcc and ItemNum for each (NEW) Sit are the same.
CurMsgNum	4.2	4	int	Sit Header: Current message number: range 0 to 99999. (SQL Default is 0)
OrgMsgNum		4	int	Sit Header: Original message number: 0 to 99999; 0 if not a retransmission. (SQL Default is 0. Field is not set by Com.)
ReportMcc		4	char	Sit Header: Id code of MCC sending the current message: list provided in Annex B of SID. (SQL Default is Blanks)
SendTime		8	datetime Nullable	Sit Header: Time the current message is placed on the communication channel by the reporting MCC.
SitNum		2	smallint	Sit Header: SIT number of current message. For Lut data is (normally) the Function code. On SitNum 60 (Lut Graphics Request), the ItemNum contains the data block, as described below.
SitNumType		1	char	SIT number type: defines format within Sit number, where needed. SitNum 40 (Lut Pass Schedule), SitNum 51 (Lut Pass Schedule Update Request): 'A'= Alternate Pass Schedule, 'P'= Primary Pass Schedule,

Output Processing Table "OutputProcess"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
				Sit 115/125/133: 'N'= New Sit format, 'O'= Old Sit format, as determined per ComSite. Sit 164: 'F'= Initial First Alert, 'U'=Updated First Alert, Sit 185: '1' = 123 First Alert, '2' = 123 Resolved Alert, '3' = 123 Updated Resolved Alert, 'X' = 406 Unlocated Alert, 'D' = 406 Doppler First Alert, 'E' = 406 Encoded Only First Alert, 'B' = 406 Doppler Blown Alert , 'C' = 406 No Doppler Blown (Position Conflict) Alert, 'N'= 406 Doppler NOCR Alert, 'O'= 406 No Doppler NOCR Alert, 'R'= 406 Doppler Resolved Alert, 'S' = 406 No Doppler Resolved Alert, 'U' = 406 Doppler Updated Resolved Alert, 'V' = 406 No Doppler Updated Resolved Alert, as determined by Alert message state. (SQL Default is Blank. Field not set by Com.)
DestMcc		4	char	Sit Header: Id code of receiving MCC: next destination of the SIT message; see Annex B in SID. (SQL Default is Blank)
Sat		3	char Nullable	Satellite Id. Required for alert data, where one satellite applies to all solutions in the message.

Output Processing Table "OutputProcess"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ItemNum		2	smallint	Sit Header: Number of Items (eg., satellites or solutions) in Sit message: range 0 to 99. -1 means does not apply. (SQL Default is -1) On SitNum 60 (Lut Graphics Request), is TypeFlag, indicating the type of data to be sent to MCC, where bits 2, 3, 4 on (values 4, 8 , 16) enable sending 121, 243, 406 Graphics data, respectively.
IncRpt		1	char	Append Incident Feedback Report: 'Y' = Yes, append report 'N' = No, do not append report (SQL Default is 'N')
TextMsg		variable	text Nullable	Text Message as sent, formatted for a "Dumb" Viewer, if SendDisp='O' or 'E'. Is Text Message as passed to Com, if SendDisp='Q' or 'H'.
AckDisp		8	varchar	Receive (Lut or Com Vendor) acknowledgment disposition for queued or sent messages (SendDisp='Q' or 'O'). The first byte indicates Done disposition. When more than one acknowledgment is received they are appended to the end of the list of dispositions, until the field is full. Dispositions that indicate that processing is assumed complete are indicated by "Done Ok" or "Done Error". When one of these occur, the first byte should be replaced with the appropriate code. When no Acknowledgment is expected, the first and only byte of AckDisp="O". First Byte "_"= Not known if Response(s) are expected, SQL default (underscore) "X"= Acknowledgment expected but not received "O"= Ok (either expected ack received

Output Processing Table "OutputProcess"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
				or no ack expected) "E"= Error (ack process done) Bytes 2 through 8 "a"= Acknowledgment received (Lut), Message still expected "A"= Acknowledgment received (Lut), Done Ok "M"= Message received in response to output (eg., Lut Status message). Done Ok "o"= Output or OutProcId (Email Sent Items "OutProcId=") "d"= Delivered (Email SMTP "Delivered:"), Done Ok "f"= Forward message (Email Sent Items "FW:") "e"= Reply or Regarding Message (Email Sent Items "RE:") "D"= Delivered (Email X400 Telex and Fax "Delivered:") "r"= Receipt Message (Email "RECPT:"), Done Ok "R"= Read Message (Email "Read:"), Done Ok "U"= Undeliverable (Email "Undeliverable:"), Done Error "N"= Not Read or Deleted (Email "Not read:"), Done Error "C"= Cancel (Email "CANCEL:"), Done Error "t"= Timeout, not done "T"= Timeout, Done Error SQL default="_" (underscore)
AckTime		8	datetime Nullable	Time receiver (Lut or Com Vendor) acknowledged message. Is time of last update to "AckDisp".

4.2.2: Output Message Table

Output Message Table "OutputMessage"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1	4	int Identity	Output Message Id
MsgName	2	24	varchar	Output Message name (usually matches first or last level table name)
Complete		(1)	bit	Message is logically complete
Error		(1)	bit	Error detected in Message (SQL Default is 0)
Test		(1)	bit	Message is test (SQL Default is 0)
Hold		(1)	bit	Hold Message from processing (SQL Default is 0)
SubsysId		4	char	Subsystem Identifier (Message Source)
TableName		24	varchar	Name of primary table
AddTime		8	datetime	Time record generated (USMCC processing time on RCC message)
DoneTime		8	datetime	Time record completed
Sat		3	char Nullable	Satellite Id. Required for alert data, where one satellite applies to all solutions in the message.
ItemNum		2	smallint	Sit Header: Number of Items (eg., satellites or solutions) in Sit message: range 0 to 99. -1 means does not apply. (SQL Default is -1)
InProcId	3 Foreign?	4	int	Input Processing Id: Message Source. (SQL Default is 0)
InMsgId	4 Foreign?	4	int	Input Message Id: Message Source. (SQL Default is 0)

4.3 LUT Output Tables

The Lut Data Structures contain database tables and indexes to store system, beacon and signal data to be sent to U.S Luts. The Communications process retrieves output data from one or more database tables and converts it to externa format, as described in the LUT DTS. Then the data is transmitted to the Com destination (ComSiteName) specifice in the associated OutputProcess table row. The Lut Tag Buffer, which begins every transmission to the Lut, is generated by the Communications process. The Output LutTag Buffer is not described in a separate table, but key elements are contained in the OutputProcess table.

4.3.1: LUT Output Data Structure, Pass Schedule Summary Table

LUT Output Data Structure, Pass Schedule Summary Table ”LutSchedSumOut”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Lut		3	char	Lut (matches Com Site name)
NumPasses		4	int	Number of Passes in Pass Schedule
PassPerBlock		4	int	Number of Passes per Transmission Block (Tag Buffer) in Pass Schedule File sent to Lut. (Should be 11)
AddTime		8	datetime	Time Pass Schedule added
FileName		80	varchar Nullable	Name of Binary File that contains the Pass Schedule

4.3.2: LUT Output Data Structure, Pass Schedule Item Table

LUT Output Data Structure, Pass Schedule Item Table "LutSchedItemOut"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PasId	1	4	int Identity	Unique Id of Pass Schedule Item
Lut	2.1	3	char	Lut (matches Com Site name)
Sat	2.2	3	char	Satellite Id
Orbit	2.3	4	int	Orbit Number
OutMsgId	3:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Aos		8	datetime	Acquisition of signal time
Los		8	datetime	Loss of signal time
AzmAos		2	smallint	Azimuth at AOS
AzmLos		2	smallint	Azimuth at LOS
TimeEqu		8	datetime	Time of crossing the equator
LonEqu		4	real	Longitude for crossing the equator
NsBound		2	smallint	Northbound or southbound (+1 if the satellite is traveling south to north, -1 if north to south)
PassOpt		2	smallint	Option flag for whether pass is taken: 0 scheduled (forced) 1 scheduled 2 data only 3 postpass conflict 4 realtime conflict 5 too short 6 suppressed 7 conflict with previous pass

4.3.3: LUT Output Data Structure, Orbit Vector Table

LUT Output Data Structure, Orbit Vector Table ”LutOrbitVectorOut”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Sat	3.2	3	char	Satellite Id
Orbit	3.3	4	int	Orbit number
Epoch		8	datetime	Epoch time for position and velocity vectors
SatXPos		8	float	Satellite X position vector in km
SatYPos		8	float	Satellite Y position vector in km
SatZPos		8	float	Satellite Z position vector in km
SatXVel		8	float	Satellite X direction velocity in km/sec
SatYVel		8	float	Satellite Y direction velocity in km/sec
SatZVel		8	float	Satellite Z direction velocity in km/sec
ValidFlag		2	smallint	Data valid flag: 0 No 1 Yes

4.3.4: LUT Output Data Structure, Time Calibration Table

LUT Output Data Structure, Time Calibration Table “LutTimeCalOut”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number
RollTime		8	datetime	Time at which USO (on board clock) rolled over
UsoFreq		4	real	Oscillator frequency that was measured at RollTime in Hz?
ValidFlag		2	smallint	Data valid flag: 0 No 1 Yes

4.3.5: LUT Output Data Structure, Pass Schedule Change Request Table

LUT Output Data Structure, Pass Schedule Change Request Table ”LutChangeSchedRequestOut”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number
PassOpt		2	smallint	Option flag for whether pass is taken: 0 scheduled (forced) 6 suppressed

4.3.6: LUT Output Data Structure, Send Pass Request Table

LUT Output Data Structure, Send Pass Request Table ”LutSendPassRequestOut”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Sat		3	char	Satellite Id (“ALL” means that all passes should be sent since PassBeginTime)
Orbit		4	int	Orbit number (N/A if Sat= “ALL”)
PassBeginTime		8	datetime	Begin time of passes to send. Only used if Sat=”ALL”

4.4 MCC/RCC/SPOC Output Data Structures

The MCC/RCC/SPOC Output Data Structures contain database tables and indexes to store system, beacon and signa data to be sent to foreign MCCs, foreign SPOCs and U.S. RCCs. The communications process retrieves output data from one or more database tables and converts it to external format, as described in section (?). Then the data is transmitted to the Com destination (ComSiteName) specificed in the associated OutputProcess table row.

(Note: Table 4.4.1 was the "SitHeaderOut",. It has been subsumed into the "OutputProcess" table.)

4.4.2: MCC, RCC, SPOC Output Data Structure, 121/243/406I Solution Table
(SITs *114*,115,117,121,*131; supports Sits 155,156,157, 185_)*

MCC, RCC, SPOC Output Data Structure, 121/243/406I Solution Table "Out121Solution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity	Unique Id of Solution
OutMsgId	2:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	3, 4.1 Foreign?	4	int	Alert Site unique Id. Is third part of 123 SiteId (eg., 3A12345).
AlertSiteSolId	4.2 Foreign?	2	smallint	Solution Id within Alert Site
AlertMsgState		1	tinyint	Alert Message state: ? 1 = First Alert 2 = First Resolved Alert 3 = Updated Resolved Alert
Sat		3	char	Satellite Id
SourceId		2	smallint	Identification code of MCC/LUT that originally provided the solution
GlobalFlag		1	char	Local/Global flag. Local + Global -

MCC, RCC, SPOC Output Data Structure, 121/243/406I Solution Table ”Out121Solution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
FreqFlag		1	char	Solution Frequency flag 1 121.5 2 243 3 121.5/243 (Dual) 4 406 PDS 5 121.5/406 6 243/406 7 121.5/243/406 8 406 G-SARP 9 406 PDS/G-SARP
FreqBias		4	real	Frequency bias in Hz (range -25000.0 to +75000.0, default +99999.9)
FBiasDev		4	real	Standard Deviation of bias measurement in Hz (range 000.0 to 900.0, default 999.9)
FreqDrift		4	real	Rate of frequency change in Hz/min (range +00.00 to + 99.00, default 99.99)
Tca		8	datetime	Time of closest approach
TcaWindowOld		1	tinyint	Window Factor (range 0 to 1) 0 TCA included in Doppler curve 1 TCA not in Doppler curve (Sent for Old Sits only)
TcaWindow		1	tinyint	Window Factor (range 0 to 9) 0 TCA included in Doppler curve 1->9 TCA not in Doppler curve (Sent for New Sits only)
NumIter		1	tinyint	Number of iterations (range 1 to 9, default is 0)
Cta		4	real	Cross track angle (range 00.000 to 33.000)
Power		2	smallint	Estimated power indicator in mw (range 1 to 9999, default is 0)

MCC, RCC, SPOC Output Data Structure, 121/243/406I Solution Table "Out121Solution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumSideband		1	tinyint	Number of sideband components that have been removed or merged (range 0 to 99, default is 0)
SwpPeriod		2	smallint	Sweep period in msec (range 1 to 9999, default is 0)
SwpPerDev		1	tinyint	Sweep period standard Deviation (range 1 to 90, default 99)
A_Srr		2	smallint	MID code of MCC in whose service area the A position is (see Annex B in SID)
A_Xmit		1	char	A position Transmit flag: - transmitted + not transmitted (SID default) (Sent for Old Sits only, SQL Default is blank)
A_Ab		1	char	Ambiguity resolution flag: + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (Sent for New Sits only)
A_Lat		4	real	A latitude (range ± 00.000 to ± 89.999), + is north
A_Lon		4	real	A longitude (range ± 000.000 to ± 179.999), + is east
A_Heading		2	smallint	A Error Ellipse heading in degrees (range 0 to 359)
A_Major		4	real	A major axis in km (range 000.1 to 999.9)
A_Minor		4	real	A minor axis in km (range 000.1 to 999.9)
A_Prob		1	tinyint	A probability in percent (range 0 to 99)

MCC, RCC, SPOC Output Data Structure, 121/243/406I Solution Table "Out121Solution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_NxtVisTm		8	datetime Nullable	A next time of visibility (SQL Default is Jan 01, 1900 00:00:00:000AM)
A_Conf		1	tinyint	A confidence factor (range 0 to 4): 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
A_Noise		4	real	A Measurement Noise: Standard Deviation of the actual data points to the solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
A_Trend		4	real	A Standard Deviation on the time shifted solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
B_Srr		2	smallint	MID code of MCC in whose service area the B position is (see Annex B in SID)
B_Xmit		1	char	B position Transmit flag: - transmitted + not transmitted (SID default) (Sent for Old Sits only, SQL Default is blank)
B_Ab		1	char	Ambiguity resolution flag: + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (Sent for New Sits only)
B_Lat		4	real	B latitude (range ± 00.000 to ± 89.999), + is north
B_Lon		4	real	B longitude (range ± 000.000 to ± 179.999), + is east

MCC, RCC, SPOC Output Data Structure, 121/243/406I Solution Table "Out121Solution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_Heading		2	smallint	B Error Ellipse heading in degrees (range 0 to 359)
B_Major		4	real	B major axis in km (range 000.1 to 999.9)
B_Minor		4	real	B minor axis in km (range 000.1 to 999.9)
B_Prob		1	tinyint	B probability in percent (range 0 to 99)
B_NxtVisTm		8	datetime Nullable	B next time of visibility (SQL Default is Jan 01, 1900 00:00:00:000AM)
B_Conf		1	tinyint	B confidence factor (range 0 to 4): 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
B_Noise		4	real	B Measurement Noise: Standard Deviation of the actual data points to the solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
B_Trend		4	real	B Standard Deviation on the time shifted solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
Sol1FreqFlag		1	char	First solution Frequency flag for Alert Site: 1 121.5 2 243 3 121.5/243 (Dual) Is first part of 123 SiteId (eg., 3A12345). (RCC message)

MCC, RCC, SPOC Output Data Structure, 121/243/406I Solution Table ”Out121Solution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Sol1Real		1	char	First solution A/B Real flag: ‘A’ = A side is real ‘B’= B side is real ‘N’= no composite Is second part of 123 SiteId (eg., 3A12345). (RCC message. SQL Default is ‘N’)
Sol1Image		1	char	First solution A/B Image flag: ‘A’ = A side is image ‘B’= B side is image ‘N’= no composite (RCC message. SQL Default is ‘N’)
SolSwpCode		1	char	Solution Sweep code: ‘Y’ = Yes, sweep is present ‘U’ = Unknown if sweep is present (RCC message)
SarNameListPrev		60	varchar Nullable	List of Sar Names receiving previous alert for site. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header (for Converter)? (RCC message)
SarNameListCur		60	varchar	List of Sar Names receiving current alert. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header (for Converter)? (RCC message)
SourceNameRccMsg		6	char	SAR Name of MCC/LUT that originally provided the solution (RCC message)
A_SrrName1		6	char Nullable	Name of the primary SRR for the A or Composite position. (RCC message)
A_SrrName2		6	char Nullable	Name of the secondary SRR for the A or Composite position. (RCC message)
B_SrrName1		6	char Nullable	Name of the primary SRR for the B position: not set if Composite. (RCC message)

MCC, RCC, SPOC Output Data Structure, 121/243/406I Solution Table "Out121Solution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_SrrName2		6	char Nullable	Name of the secondary SRR for the B position: not set if Composite. (RCC message)
SolReal		1	char	New solution A/B Real flag: 'A' = A side is real 'B'= B side is real 'N'= no composite (RCC, SPOC message. SQL Default is 'N')
CompLat		4	real Nullable	Composite latitude (range ± 00.000 to ± 89.999), + is north (RCC, SPOC message)
CompLon		4	real Nullable	Composite longitude (range ± 000.000 to ± 179.999), + is east (RCC, SPOC message)
CompSwpCode		1	char	Composite Solution Sweep code: 'Y' = Yes, sweep is present 'U' = Unknown if sweep is present (RCC message)
CompFreqFlag		1	char	Composite Frequency flag: 1 121.5 2 243 3 121.5/243 (Dual) (RCC message)
CompFreq		4	real	Composite Primary Frequency. If not Composite, is First Solution Frequency. (RCC, SPOC message)
CompFreq2		4	real Nullable	Composite Secondary Frequency. If not Composite, is First Solution Frequency. (SPOC message)
ASiteDuration		4	real	Alert Site Duration in hours (RCC message)
NumPas		2	smallint	Number of Passes in Alert Site (RCC, SPOC message)

MCC, RCC, SPOC Output Data Structure, 121/243/406I Solution Table ”Out121Solution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumPrevSol		1	tinyint	Number of previous pass solutions in Table “Out121PrevSolutions” for the Alert Site. The previous passes are reported in the sequence the passes were received. Only the last “n” passes are reported. (RCC message, SQL Default is 0)
NumNextPas		1	tinyint	Number of next pass solutions (rows) for Alert Site in Table “Out121NextPass” (RCC message, SQL Default is 0)
A_NextPasId1		4	int	A (or Composite) solution first Next Pass Id in Table “Out121NextPass” (SQL Default is 0)
A_NextPasId2		4	int	A (or Composite) solution second Next Pass Id in Table “Out121NextPass” (SQL Default is 0)
B_NextPasId1		4	int	B solution first Next Pass Id in Table “Out121NextPass”. Not set on composite. (SQL Default is 0)
B_NextPasId2		4	int	B solution second Next Pass Id in Table “Out121NextPass”. Not set on composite. (SQL Default is 0)
PoorAccWarn		1	char Nullable	Poor Solution Accuracy warning flag, computed per SID field 61 (SPOC message): ‘Y’ = solution accuracy is suspect, ‘N’ = solution accuracy is not suspect

4.4.3: MCC,RCC,SPOC Output Data Structure, 406/No Doppler Solution Table
(SITs 122,123,124,132,*135*; supports SITs 16?, 185-?)

MCC,RCC,SPOC Output Data Structure, 406/No Doppler Solution Table "Out406SolNoDoplr"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity	Unique Id of Solution
OutMsgId	2:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	3, 4.1 Foreign?	4	int	Alert Site unique Id
AlertSiteSolId	4.2 Foreign?	2	smallint	Solution Id within Alert Site
AlertMsgState		1	tinyint	Alert Message state: ? 0 = First Unlocated Alert 1 = Located Alert, no composite 2 = Updated Located Alert, no composite 3 = Position Conflict, no composite 4 = New Detection, no composite 5 = First Resolved Alert 6 = Updated Resolved Alert 7 = Position Conflict, composite 8 = New Detection, composite
Sat		3	char	Satellite Id
SourceId		2	smallint	Identification code of MCC/LUT that originally provided the solution
FreqBias		4	real	Frequency bias in Hz (range -25000.0 to +75000.0, default +99999.9) Not in Sit 135.
FBiasDev		4	real	Standard Deviation of bias measurement in Hz (range 000.0 to 900.0, default 999.9). Not in Sit 135.
FreqDrift		4	real	Rate of frequency change in Hz/min (range +00.00 to + 99.00, default 99.99). Not in Sit 135.

MCC,RCC,SPOC Output Data Structure, 406/No Doppler Solution Table ”Out406SolNoDoplr”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Tca		8	datetime	Time of last data point
Points		1	tinyint	Number of points (range 0 to 99)
BcnId15	3	15	char	406 Beacon Id code (bits 26-85), with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144), hexadecimal character
RegBcnId15		15	char Nullable	406 Beacon Id code (bits 26-85), hexadecimal character, used to search the Registration database. Matches BcnId15, except for Special Programs, where all bits defined within the program are defaulted.
PrevSarNameList		60	varchar Nullable	List of Sar Names receiving previous alert for site. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header (for Converter)? (RCC message)
CurSarNameList		60	varchar	List of Sar Names receiving current alert. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header (for Converter)? (RCC message)
SourceNameRccMsg		6	char	SAR Name of MCC/LUT that originally provided the solution (RCC message)
EncLat		4	real Nullable	Encoded latitude (range ± 00.000 to ± 89.999), + is north. (RCC, SPOC message). More Beacon Decode data is in Table “Out406BcnDecode”
EncLon		4	real Nullable	Encoded longitude (range ± 000.000 to ± 179.999), + is east. (RCC, SPOC message)

MCC,RCC,SPOC Output Data Structure, 406/No Doppler Solution Table ”Out406SolNoDoplr”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
E_SrrName1		6	char Nullable	Name of the primary SRR for the Encoded position: not set if Composite. (RCC message)
E_SrrName2		6	char Nullable	Name of the secondary SRR for the Encoded position: not set if Composite. (RCC message)
EncReal		1	char	Encoded is Real flag: ‘Y’ = Yes, encoded solution is real ‘N’= No: encoded is not real, ‘U’=Unknown if encoded is real, ‘ ’ = no encoded is present (RCC, SPOC message. SQL Default is ‘N’)
CompLat		4	real Nullable	Composite latitude (range ± 00.000 to ± 89.999), + is north (RCC, SPOC message)
CompLon		4	real Nullable	Composite longitude (range ± 000.000 to ± 179.999), + is east (RCC, SPOC message)
CompFreq		4	real	Composite Frequency. If not Composite, is First Solution Frequency. If the Frequency is not available, is set to 406.025. (RCC, SPOC message)
ASiteDuration		4	real	Alert Site Duration in hours (RCC message)
NumRptPas		2	smallint	Number of reported Passes in Alert Site (RCC, SPOC message)

MCC,RCC,SPOC Output Data Structure, 406/No Doppler Solution Table ”Out406SolNoDoplr”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumPrevSol		1	tinyint	Number of previous pass solutions in Table “Out406PrevSolution” for the Alert Site. In general, this Table has the best solution per pass, with this priority: 1) pass composite, 2) pass location cluster composite(s) (only if no site composite), 3) detect only. If Doppler and Encoded come in on the same pass, they are reported separately as part of the same pass. However, blown solutions are not reported once ambiguity is resolved. A “Detect only” is reported as a previous pass only if it was in a previous message. If location is received after a “Detect only” is reported, the “Detect only” is reported as a previous pass only if ambiguity is not resolved. The previous passes are reported in the sequence the passes were received. All previous passes are reported until ambiguity is resolved, afterwards, only the last “n” passes are reported. (RCC message, SQL Default is 0)
NumNextPas		1	tinyint	Number of next pass solutions (rows) for Alert Site in Table “Out406NextPass” (RCC message, SQL Default is 0)
NextPasId1		4	int	Encoded (or composite) solution first Next Pass Id in Table “Out406NextPass”. (SQL Default is 0)
NextPasId2		4	int	Encoded (or composite) solution second Next Pass Id in Table “Out406NextPass”. (SQL Default is 0)

MCC,RCC,SPOC Output Data Structure, 406/No Doppler Solution Table ”Out406SolNoDoplr”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RegType		1	char	USMCC Registration Database Output message Beacon type: ‘E’ = EPIRB ‘L’ = ELT ‘P’= PLB ‘N’= None (Beacon not registered) ‘ ’= Unknown if beacon registered

4.4.4: MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table
(SITs 125,126,127,133,*134*; supports SITs 16?, 185_?)

MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table "Out406SolDoppler"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity	Unique Id of Solution
OutMsgId	2:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	3, 4.1 Foreign?	4	int	Alert Site unique Id
AlertSiteSolId	4.2 Foreign?	2	smallint	Solution Id within Alert Site
AlertMsgState		1	tinyint	Alert Message state: ? 0 = First Unlocated Alert 1 = Located Alert, no composite 2 = Updated Located Alert, no composite 3 = Position Conflict, no composite 4 = New Detection, no composite 5 = First Resolved Alert 6 = Updated Resolved Alert 7 = Position Conflict, composite 8 = New Detection, composite
Sat		3	char	Satellite Id
SourceId		2	smallint	Identification code of MCC/LUT that originally provided the solution
GlobalFlag		1	char	Local/Global flag. Local + (Default) Global -
FreqFlag		1	char	Frequency flag 4 406 PDS 5 406 LEO/GEO with SARP 6 406 LEO/GEO with SARR 7 406 LEO/GEO with SARP & SARR 8 406 G-SARP (SARR) 9 406 PDS/G-SARP

MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table ”Out406SolDoppler”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
FreqBias		4	real	Frequency bias in Hz (range -25000.0 to +75000.0, default +99999.9)
FBiasDev		4	real	Standard Deviation of bias measurement in Hz (range 000.0 to 900.0, default 999.9)
FreqDrift		4	real	Rate of frequency change in Hz/min (range +00.00 to + 99.00, default 99.99)
Tca		8	datetime	Time of closest approach
TcaWindowOld		1	tinyint	Window Factor (range 0 to 1) 0 TCA included in Doppler curve 1 TCA not in Doppler curve (Sent for Old Sits only)
TcaWindow		1	tinyint	Window Factor (range 0 to 9) 0 TCA included in Doppler curve 1->9 TCA not in Doppler curve (Sent for New Sits only)
NumIter		1	tinyint	Number of iterations (range 1 to 9, default is 0)
Cta		4	real	Cross track angle (range 00.000 to 33.000)
Power		2	smallint	Estimated power indicator in mw (range 1 to 9999, default is 0)
Points		1	tinyint	Number of points (range 1 to 99, default is 0)
BcnId15	3	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144), hexadecimal character

MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table "Out406SolDoppler"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RegBcnId15		15	char Nullable	406 Beacon Id code (bits 26-85), hexadecimal character, used to search the Registration database. Matches BcnId15, except for Special Programs, where all bits defined within the program are defaulted.
A_Srr		2	smallint	MID code of MCC in whose service area the A position is (see Annex B in SID)
A_Xmit		1	char	A position Transmit flag: - transmitted + not transmitted (SID default) (Sent for Old Sits only, SQL Default is blank)
A_Ab		1	char	Ambiguity resolution flag: + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (Sent for New Sits only)
A_Lat		4	real	A latitude (range ± 00.000 to ± 89.999) + is north
A_Lon		4	real	A longitude (range ± 000.000 to ± 179.999) + is east
A_Heading		2	smallint	A Error Ellipse heading in degrees (range 0 to 359)
A_Major		4	real	A major axis in km (range 000.1 to 999.9)
A_Minor		4	real	A minor axis in km (range 000.1 to 999.9)
A_Prob		1	tinyint	A probability in percent (range 0 to 99)
A_NxtVisTm		8	datetime Nullable	A next time of visibility (SQL Default is Jan 01, 1900 00:00:00:000AM)

MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table ”Out406SolDoppler”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_Conf		1	tinyint	A confidence factor (range 1 to 4): 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
A_Noise		4	real	A Measuremnt Noise: Standard Deviation of the actual data points to the solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
A_Trend		4	real	A Trend Factor: Standard Deviation on the time shifted solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
B_Srr		2	smallint	MID code of MCC in whose service area the B position is (see Annex B in SID)
B_Xmit		1	char	B position Transmit flag: - transmitted + not transmitted (SID default) (Sent for Old Sits only, SQL Default is blank)
B_Ab		1	char	Ambiguity resolution flag: + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (Sent for New Sits only)
B_Lat		4	real	B latitude (range ± 00.000 to ± 89.999) + is north
B_Lon		4	real	B longitude (range ± 000.000 to ± 179.999) + is east
B_Heading		2	smallint	B Error Ellipse heading in degrees (range 000 to 359)

MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table "Out406SolDoppler"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_Major		4	real	B major axis in km (range 000.1 to 999.9)
B_Minor		4	real	B minor axis in km (range 000.1 to 999.9)
B_Prob		1	tinyint	B probability in percent (range 0 to 99)
B_NxtVisTm		8	datetime Nullable	B next time of visibility (SQL Default is Jan 01, 1900 00:00:00:000AM)
B_Conf		1	tinyint	B confidence factor (range 1 to 4): 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
B_Noise		4	real	B Measurement Noise: Standard Deviation of the actual data points to the solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
B_Trend		4	real	B Trend Factor: Standard Deviation on the time shifted solution Doppler curve in Hz (range 000.0 to 250.0, default is 255.0)
PrevSarNameList		60	varchar Nullable	List of Sar Names receiving previous alert for site. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header (for Converter)? (RCC message)
CurSarNameList		60	varchar	List of Sar Names receiving current alert. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header (for Converter)? (RCC message)
SourceNameRccMsg		6	char	SAR Name of MCC/LUT that originally provided the solution (RCC message)

MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table "Out406SolDoppler"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_SrrName1		6	char Nullable	Name of the primary SRR for the A (if no Composite) or Composite position. (RCC message)
A_SrrName2		6	char Nullable	Name of the secondary SRR for the A (if no Composite) or Composite position. (RCC message)
B_SrrName1		6	char Nullable	Name of the primary SRR for the B position: not set if Composite. (RCC message)
B_SrrName2		6	char Nullable	Name of the secondary SRR for the B position: not set if Composite. (RCC message)
EncLat		4	real Nullable	Encoded latitude (range ± 00.000 to ± 89.999), + is north. (RCC, SPOC message). More Beacon Decode data is in Table "Out406BcnDecode"
EncLon		4	real Nullable	Encoded longitude (range ± 000.000 to ± 179.999), + is east. (RCC, SPOC message)
E_SrrName1		6	char Nullable	Name of the primary SRR for the Encoded position: not set if Composite. (RCC message)
E_SrrName2		6	char Nullable	Name of the secondary SRR for the Encoded position: not set if Composite. (RCC message)
SolReal		1	char	New solution A/B Real flag: 'A' = A side is real 'B'= B side is real 'N'= neither A or B is real, 'U'=Unknown if A or B is real, (RCC, SPOC message. SQL Default is 'U')

MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table ”Out406SolDoppler”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
EncReal		1	char	Encoded is Real flag: ‘Y’ = Yes, encoded solution is real ‘N’= No: encoded is not real, ‘U’=Unknown if encoded is real, ‘ ’ = Encoded is not present (RCC, SPOC message. SQL Default is ‘ ’)
CompLat		4	real Nullable	Composite latitude (range ± 00.000 to ± 89.999), + is north (RCC, SPOC message)
CompLon		4	real Nullable	Composite longitude (range ± 000.000 to ± 179.999), + is east (RCC, SPOC message)
CompFreq		4	real	Composite Frequency. If not Composite, is First Solution Frequency. (SPOC message)
ASiteDuration		4	real	Alert Site Duration in hours (RCC message)
NumRptPas		2	smallint	Number of reported Passes in Alert Site (RCC, SPOC message)

MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table "Out406SolDoppler"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumPrevSol		1	tinyint	Number of previous pass solutions in Table "Out406PrevSolution" for the Alert Site. In general, this Table has the best solution per pass, with this priority: 1) pass composite, 2) pass location cluster composite(s) (only if no site composite), 3) previous located alert (only on Located Alert Update pre-composite), 4) detect only. If Doppler and Encode come in on the same pass, they are reported separately as part of the same pass. However, blown solutions are not reported once ambiguity is resolved. The previous passes are reported in the sequence the passes were received. All previous passes are reported until ambiguity is resolved, afterwards, only the last "n" passes are reported. (RCC message, SQL Default is 0)
NumNextPas		1	tinyint	Number of next pass solutions (rows) for Alert Site in Table "Out406NextPass". (RCC, SPOC message, SQL Default is 0)
A_NextPasId1		4	int	A (or Composite) solution first Next Pass Id in Table "Out406NextPass" (RCC, SPOC message. (SQL Default is 0)
A_NextPasId2		4	int	A (or Composite) solution second Next Pass Id in Table "Out406NextPass". (RCC message. SQL Default is 0)
B_NextPasId1		4	int	B solution first Next Pass Id in Table "Out406NextPass". Not set on composite. (RCC, SPOC message. SQL Default is 0)

MCC,RCC,SPOC Output Data Structure, 406/Doppler Solution Table ”Out406SolDoppler”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_NextPasId2		4	int	B solution second Next Pass Id in Table “Out406NextPass”. Not set on composite. (RCC message. SQL Default is 0)
E_NextPasId1		4	int	Encoded solution first Next Pass Id in Table “Out406NextPass”. Not set on composite. (RCC, SPOC message. SQL Default is 0)
E_NextPasId2		4	int	Encoded solution second Next Pass Id in Table “Out406NextPass”. Not set on composite. (RCC message. SQL Default is 0)
RegType		1	char	USMCC Registration Database Output message Beacon type: ‘E’ = EPIRB ‘L’ = ELT ‘P’= PLB ‘N’= None (Beacon not Registered) ‘ ’= Unknown if beacon registered
PoorAccWarn		1	char Nullable	Poor Solution Accuracy warning flag, computed per SID field 61 (SPOC message): ‘Y’ = solution accuracy is suspect, ‘N’ = solution accuracy is not suspect

4.4.5: MCC Output Data Structure, Orbit Vector Satellite Header Table
(SIT 215)

MCC Output Data Structure, Orbit Vector Satellite Header Table ”SitOrbVecSatHdrOut”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SatHdrId	1	4	int Identity	Unique Id of Satellite Header
OutMsgId	2 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number range (0 to 99999)
OvNum		2	smallint	Number of Vectors for Satellite

4.4.6 MCC Output Data Structure, Orbit Vector Element Table
(SIT 215)

MCC Output Data Structure, Orbit Vector Element Table ”SitOrbitVectorOut”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identity	Unique Id of Record
OutMsgId	2 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
InRecId		4	int	Id of Input Record (Orbit Vector) (SQL Default is 0)
SatHdrId	3 Foreign	4	int	Unique Id of Satellite Header <FK=SitOrbVecSatHdrOut>
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number range (0 to 99999)
Epoch		8	datetime	Epoch time for position and velocity vectors
SatXPos		8	float	Satellite X position vector in km (range ± 0000.0000 to ± 9999.9999)
SatYPos		8	float	Satellite Y position vector in km (range ± 0000.0000 to ± 9999.9999)
SatZPos		8	float	Satellite Z position vector in km (range ± 0000.0000 to ± 9999.9999)
SatXVel		8	float	Satellite X direction velocity in km/sec (range ± 000.00000 to ± 999.99999)
SatYVel		8	float	Satellite Y direction velocity in km/sec (range ± 000.00000 to ± 999.99999)
SatZVel		8	float	Satellite Z direction velocity vector in km/sec (range ± 000.00000 to ± 999.99999)

4.4.7: MCC Output Data Structure, 406/Time Calibration Table
(SIT 415)

MCC Output Data Structure, 406/Time Calibration Table "SitTimeCalOut"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identity	Unique Id of Calibration Record
OutMsgId	2 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number (range 0 to 99999)
RollTime		8	datetime	Time at which USO (on board clock) rolled over
UsoFreq		8	float	Oscillator frequency that was measured at RollTime in Hz (range 0.0 to 9999999.999)

4.4.8: MCC Output Data Structure, Narrative Text Table
(SITs 416, 425, 445, 515, 525, 545, 605, 915)

MCC Output Data Structure, Narrative Text Table "SitNarTextOut"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
InMsgComSiteName		16	varchar Nullable	COM site name of associated Input Sit message (605, 915 or other).
PrevMsgNum		4	int	Previous message number: Current message number (range 0 to 99999) of associated Input Sit (605, 915 or other). (SQL Default is 0)
PrevSendTime		8	datetime Nullable	Previous Send Time: Time the current message placed on the communication channel by the reporting MCC in the associated Input Sit (605, 915 or other).
NarrText			text	Narrative text

4.4.9: MCC Output Data Structure, SARP/SARR Command Request Header Table
(SITs 435,535)

MCC Output Data Structure, SARP/SARR Command Request Header Table "SitSpaceCmdReqHdrOut"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SatHdrId	1	4	int Identity	Unique Id of Satellite Header
OutMsgId	2 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Sat		3	char	Satellite Id
Orbit		4	int	Orbit number (range 0 to 99999)
ProcNum		2	smallint	Number of Procedures for command request (in table "SitSpaceCmdReqOut")

4.4.10 MCC Output Data Structure, SARP/SARR Command Request Item Table
(SITs 435,535)

MCC Output Data Structure, SARP/SARR Command Request Item Table "SitSpaceCmdReqOut"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identity	Unique Id of Record
OutMsgId	2 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
InRecId		4	int	Id of associated Input Record (SQL Default is 0)
SatHdrId	3 Foreign	4	int	Unique Id of Satellite Header <FK=SitSpaceCmdReqHdrOut>
ProcName		8	char	Procedure name as defined in TCP document
ExecTime		8	datetime	The time the command procedure is to be executed

4.4.11: MCC Output Data Structure, 406 Beacon Registration Information Table
(SIT 925)

MCC Output Data Structure, 406 Beacon Registration Information Table ”Sit406BcnRegOut”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	3, 4.1 Foreign?	4	int	Alert Site unique Id (0 = N/A)
AlertSiteSolId	4.2 Foreign?	2	smallint	Solution Id within Alert Site (0 = N/A)
InMsgId925		4	int	Input Message Id of associated Input Sit 925. 0 means N/A. (SQL Default is 0)
InMsgComSiteName		16	varchar Nullable	COM site name of associated Input Sit 925.
PrevMsgNum		4	int	Previous message number: Current message number (range 0 to 99999) of associated Input Sit 925. (SQL Default is 0)
PrevSendTime		8	datetime Nullable	Previous Send Time: Time the current message placed on the communication channel by the reporting MCC in associated Input Sit 925.
Mid		2	smallint	MID (Country) for Beacon Id. Used to retrieve Registration Info from SID Annex L for output message.
BcnId15	2	15	char	406 Beacon Id code (bits 26-85), with location bits set to default values per C/S T.001
BcnId30		30	char Nullable	406 Beacon Id code (bits 25-144), hexadecimal character
NarrText			text	narrative text

4.4.12: (RCC) Output Data Structure, 121/243 Previous Solution Table
(supports SIT 156, 157, 158?)

(RCC) Output Data Structure, 121/243 Previous Solution Table ”Out121PrevSolution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identity	Unique Id of Record
SolId	2:ix	4	int	Unique Id of Solution in Output message solution or missed pass item table.
OutMsgId	3:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	4, 5.1 Foreign?	4	int	Alert Site unique Id
PassNum	5.2 Foreign?	2	smallint	Pass Number within Alert Site
Sol1FreqFlag		1	char	First solution Frequency flag for Alert Site: 1 121.5 2 243 3 121.5/243 (Dual) Is first part of 123 SiteId (eg., 3A12345).
Sol1Side		1	char	First solution A/B Real side flag: If composite: ‘A’ = A side is real ‘B’= B side is real If no composite, is Solution side (Sol). Is second part of 123 SiteId (eg., 3A12345).
Prob		1	tinyint	Solution probability as a percent (0 to 99). (SQL Default is 0)
Sol		1	char	Solution side: ‘A’ A solution ‘B’ B solution
SolLat		4	real	Solution latitude (range ± 00.000 to ± 89.999), + is north
SolLon		4	real	Solution longitude (range ± 000.000 to ± 179.999), + is east

(RCC) Output Data Structure, 121/243 Previous Solution Table "Out121PrevSolution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolSwpCode		1	char	Solution Sweep code: 'Y' = Yes, sweep is present 'U' = Unknown if sweep is present
SolFreqFlag		1	char	Solution Frequency flag 1 121.5 2 243 3 121.5/243 (Dual)
SolFreq		4	real	Solution primary Frequency
Sat		3	char	Satellite Id
Orbit		4	int	Orbit Number
SolTca		8	datetime	Solution TCA
SourceNameRccMsg		6	char	SAR Name of MCC/LUT that originally provided the solution

4.4.13: (RCC) Output Data Structure, 121/243 Next Pass Table
(supports SITs 156, 157, 158)

(RCC) Output Data Structure, 121/243 Next Pass Table "Out121NextPass"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NextPasId	1	4	int Identity	Unique Id of Next Pass Record
SolId	2:ix	4	int	Unique Id of Solution in Output message alert solution or missed pass solution table
OutMsgId	3:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	4, 5.1 Foreign?	4	int	Alert Site unique Id
AlertSiteSolId	5.2 Foreign?	2	smallint	Solution Id within Alert Site, not applicable on Missed Pass message. (SQL Default is 0)
Sol1FreqFlag		1	char	First solution Frequency flag for Alert Site: 1 121.5 2 243 3 121.5/243 (Dual) Is first part of 123 SiteId (eg., 3A12345).
Sol1Side		1	char	First solution A/B Real side flag: If composite: 'A' = A side is real 'B'= B side is real If no composite, is Solution side (Sol). Is second part of 123 SiteId (eg., 3A12345).
Sol		1	char	Solution side: 'A' A solution 'B' B solution 'C' Composite solution
Sat		3	char Nullable	Satellite Id. If no next pass for solution side, is null.
Orbit		4	int Nullable	Orbit Number. If no next pass for solution side, is null.

(RCC) Output Data Structure, 121/243 Next Pass Table "Out121NextPass"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LutLos		8	datetime Nullable	Next pass Loss of Signal Time of Lut to Satellite. If no next pass for solution side, is null.
Lut		3	char Nullable	Name of U.S. LUT predicted to take pass. If no next pass for solution side, is null.
VisFlag		1	char	Beacon to satellite visbility flag: 'L' = pass has low visibility 'H' = pass has high visibility (if not detected, count as missed pass) ' ' = no next pass for solution side (SQL Default is Blank)

4.4.14: (RCC) Output Data Structure, 121/243 MHz Missed Pass Summary Table
(supports SIT 158)

(RCC) Output Data Structure, 121/243 MHz Missed Pass Summary Table ”Out121MissedPassSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
Lut	2.1	3	char	Name of U.S. LUT that missed the pass (i.e., failed to detect expected beacons)
Sat	2.2	3	char	Satellite Id of missed pass
Orbit	2.3	4	int	Orbit Number of missed pass
LutLos		8	datetime	Loss of Signal Time at Lut of missed pass
NumMisPasSol		1	tinyint	Number of missed pass solutions in Table “Out121MissedPassSol” for the Output Message.
NumPrevSol		1	tinyint	Number of previous pass solutions in Table “Out121PrevSolutions” for the Output Message. The previous passes are reported in the sequence the passes were received, per Alert site. (SQL Default is 0)
NumNextPas		1	tinyint	Number of next pass solutions (rows) for Output Message in Table “Out121NextPass”. (SQL Default is 0)
SarNameListPrev		60	varchar Nullable	List of Sar Names receiving previous alert for site. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header (for Converter)? (RCC message)
SarNameListCur		60	varchar	List of Sar Names receiving current alert. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header (for Converter)? (RCC message)

4.4.15: (RCC) Output Data Structure, 121/243 MHz Missed Pass Solution Table
(supports SIT 158)

(RCC) Output Data Structure, 121/243 MHz Missed Pass Solution Table ”Out121MissedPassSol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity	Unique Id of missed pass solution
OutMsgId	2:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	3, 4.1 Foreign?	4	int	Alert Site unique Id
ASiteMisPasId	4.2 Foreign?	2	smallint	Missed Pass Id within Alert Site (is link into Alert Site Missed Pass Table)
Sol1FreqFlag		1	char	First solution Frequency flag for Alert Site: 1 121.5 2 243 3 121.5/243 (Dual) Is first part of 123 SiteId in RCC message (eg., 3A12345).
Sol1Side		1	char	First solution A/B Real side flag: If composite: ‘A’ = A side is real ‘B’= B side is real If no composite, is Solution side (Sol). Is second part of 123 SiteId (eg., 3A12345).
Lat		4	real	Latitude for missed pass
Lon		4	real	Longitude for missed pass
ASiteDuration		4	real	Alert Site Duration in hours
NumPas		2	smallint	Number of Passes in Alert Site
SrrName1		6	char Nullable	Name of the primary SRR for the missed pass position.

(RCC) Output Data Structure, 121/243 MHz Missed Pass Solution Table ”Out121MissedPassSol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SrrName2		6	char Nullable	Name of the secondary SRR for the missed pass position.
NumMisPas		1	tinyint	Number of missed passes for position (A, B or composite)
Closed		1	char	A or B Side or composite is closed:. ‘Y’ = yes, is closed ‘N’ = no, is open
NumPrevSol		1	tinyint	Number of previous pass solutions in Table “Out121PrevSolutions” for the Missed pass solution. The previous passes are reported in the sequence the passes were received. Only the last “n” passes are reported. (SQL Default is 0)
NumNextPas		1	tinyint	Number of next pass solutions (rows) for the Missed pass solution in Table “Out121NextPass” (SQL Default is 0)
NextPasId1		4	int	Missed pass solution first Next Pass Id in Table “Out121NextPass” (SQL Default is 0)
NextPasId2		4	int	Missed pass solution second Next Pass Id in Table “Out121NextPass” (SQL Default is 0)

4.4.16: (RCC,SPOC) Output Data Structure, 406 Beacon Decode Table

(supports SITs 160-166, 185_D)

(RCC,SPOC) Output Data Structure, 406 Beacon Decode Table “Out406BcnDecode”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1.2 Foreign?	4	int	Unique Id of Solution in Output message solution table
OutMsgId	1.1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	3, 4.1 Foreign?	4	int	Alert Site unique Id
AlertSiteSolId	4.2 Foreign?	2	smallint	Solution Id within Alert Site, not applicable on Missed Pass message. (SQL Default is 0)
BcnId15	5	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144), hexadecimal character
EncLat		4	real Nullable	Encoded latitude
EncLon		4	real Nullable	Encoded longitude
Mid		2	smallint	Maritime Identification Digit: country code (RCC, SPOC message MF 50). Also used to retrieve Registration Info from SID Annex L for SPOC message MF 61.
MidName		16	varchar Nullable	Country (MID) name. (RCC, SPOC message MF 50). SQL Default is “Unassigned”
CraftId		12?	varchar Nullable	Beacon Craft Id (RCC, SPOC message MF 52?)
SpecificBcn		2	char Nullable	Specific Beacon id on aircraft or vessel.(SPOC message MF 59 ?)

(RCC,SPOC) Output Data Structure, 406 Beacon Decode Table "Out406BcnDecode"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Homing		8	varchar	Beacon Homing: "Maritime", "121.5", "Other" or "NIL". (RCC, SPOC message MF 57)
Manufact		16	varchar Nullable	Beacon Manufacturer (RCC, SPOC message MF 60)
Model		16	varchar Nullable	Beacon Model Number (RCC, SPOC message MF 60)
ManufSeqNum		2	smallint Nullable	Beacon Manufacturer Sequence Number (RCC message)
SerialNum		12	varchar Nullable	Beacon Serial Number (RCC message, SPOC message MF 52?)
BcnType		24	varchar	Beacon type: eg. "Float Free" (RCC message)
UserClass		32	varchar Nullable	Beacon User Class: eg., "Maritime". (SPOC message MF 51)
EmergCode		32	varchar Nullable	Beacon Emergency Code, per C/S T.001. (SPOC message MF 53)
UpdateType		1	char	Beacon Encoded position update device type 'I' = Internal 'E' = External 'N'= Not applicable (SQL Default is 'N'. SPOC message MF 55)
ActivType		1	char	Beacon Activation type: 'M' = Manual 'U' = Unknown (SQL Default is 'U'. SPOC message MF 58)
BcnCraftNum		2	smallint Nullable	Beacon number on aircraft or vessel. SPOC message MF 59)

(RCC,SPOC) Output Data Structure, 406 Beacon Decode Table "Out406BcnDecode"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SpecProgramName		24	varchar Nullable	Special Program name for National Use Beacon Id. The Id of Beacon within Special Program is contained in "SerialNum". The name is normally derived from "FilterId in the associated row in the "Alert124FilterCfg" table. If the name not known, then the value is set to "Unknown" .
SpecProgBcnId15		15	char Nullable	The Beacon Id that is used to reference Beacon Registration data for the Special Program.
PosResolution		1	char Nullable	Position resolution, derived from Beacon Decode. 'C'= Coarse, 'R'= Refined, 'N' = None. For Naval Submarine Program, Coarse means that only degrees of latitude and longitude are set, and Refined means the fraction of degrees is set (from 2nd Protected part of 30 Hex Beacon Id).
TimeForBcnLoc		4	int Nullable	Time after Beacon Actuation until an encoded Beacon position is set, derived from Beacon Decode. Units varies per type of Beacon, with the default as minutes. -1 means that the value is not available. For Naval Submarine Program, this field is "Minutes until GPS location is determined". If beacon decode value is 1023, then the value is not available, and "TimeForBcnLoc"= -1.
TimeBcnActive		4	int Nullable	Time the Beacon has been active, derived from Beacon Decode. Units varies per type of Beacon, with the default as minutes. For Naval Submarine Program, this field is "Hours Active".

(RCC,SPOC) Output Data Structure, 406 Beacon Decode Table “Out406BcnDecode”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**

4.4.17: (RCC) Output Data Structure, 406 Previous Solution Table

(supports SIT 166, 167?)

(RCC) Output Data Structure, 406 Previous Solution Table "Out406PrevSolution"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identity	Unique Id of Record
SolId	2:ix Foreign?	4	int	Unique Id of Solution in Output message solution table
OutMsgId	3:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	4, 5.1 Foreign?	4	int	Alert Site unique Id
PassNum	5.2 Foreign?	2	smallint	Pass Number within Alert Site
SolLat		4	real	Solution latitude (range ± 00.000 to ± 89.999), + is north. Set to 0.0 if N/A.
SolLon		4	real	Solution longitude (range ± 000.000 to ± 179.999), + is east. Set to 0.0 if N/A.
Prob		1	tinyint	Solution probability as a percent (1 to 99). Not applicable for encoded solution. 0 indicates N/A. (SQL Default is 0)
Sol		1	char	Solution side: 'A' A solution 'B' B solution 'E' Encoded solution 'U' Unlocated solution
Sat		3	char	Satellite Id
Orbit		4	int	Orbit Number
SolTca		8	datetime	Solution TCA (detect time)
SourceNameRccMsg		6	char	SAR Name of MCC/LUT that originally provided the solution. "MULTI" indicated that there is more than one data source.

(RCC) Output Data Structure, 406 Previous Solution Table ”Out406PrevSolution”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SrrName1		6	char Nullable	Name of the primary SRR for the solution (if Composite site or Unlocated solution, is null)
SrrName2		6	char Nullable	Name of the secondary SRR for the solution (if Composite site or Unlocated solution, is null)

4.4.18: (RCC) Output Data Structure, 406 Next Pass Table
(supports SITs 166, 16?)

(RCC) Output Data Structure, 406 Next Pass Table ”Out406NextPass”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NextPasId	1	4	int Identity	Unique Id of Next Pass Record
SolId	2:ix Foreign?	4	int	Unique Id of Solution in Output message solution table
OutMsgId	3:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	4, 5.1 Foreign?	4	int	Alert Site unique Id
AlertSiteSolId	5.2 Foreign?	2	smallint	Solution Id within Alert Site, not applicable on Missed Pass message. (SQL Default is 0)
BcnId15	6	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
Sol		1	char	Solution side: ‘A’ A solution ‘B’ B solution ‘C’ Composite solution ‘E’ Encoded solution
Sat		3	char Nullable	Satellite Id. If no Next pass for solution side, is null.
Orbit		4	int Nullable	Orbit Number. If no Next pass for solution side, is null.
LutLos		8	datetime Nullable	Next pass Loss of Signal Time of Lut to Satellite. If no Next pass for solution side, is null.
Lut		3	char Nullable	Name of U.S. LUT predicted to take pass. If no Next pass for solution side, is null.

(RCC) Output Data Structure, 406 Next Pass Table ”Out406NextPass”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
VisFlag		1	char	Beacon to satellite visbility flag: ‘L’ = pass has low visibility ‘H’ = pass has high visibility (if not detected, count as missed pass) ‘ ’ = no next pass for solution side (SQL Default is Blank)

4.4.19: (RCC) Output Data Structure, 406 MHz Missed Pass/Site Closure Summary Table (supports SIT 166)

(RCC) Output Data Structure, 406 MHz Missed Pass/Site Closure Summary Table ”Out406MissedPassSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1 Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	2 Foreign?	4	int	Alert Site unique Id
BcnId15	3	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
ASiteClosed		1	char	Alert site is closed flag: ‘M’ = yes, closed due to missed passes ‘T’ = yes, closed due to time (Age out) ‘N’ = no, is open
Lut	4.1	3	char Nullable	Name of U.S. LUT that missed the pass (i.e., failed to detect expected beacon)
Sat	4.2	3	char Nullable	Satellite Id of missed pass
Orbit	4.3	4	int Nullable	Orbit Number of missed pass
LutLos		8	datetime Nullable	Loss of Signal Time at Lut of missed pass
NumMisPasSol		1	tinyint	Number of missed pass solutions in Table “Out406MissedPassSol” for the Output Message. (SQL Default is 0)
NumPrevSol		1	tinyint	Number of previous pass solutions in Table “Out406PrevSolutions” for the Output Message. The previous passes are reported in the sequence the passes were received, per Alert site. (SQL Default is 0)

(RCC) Output Data Structure, 406 MHz Missed Pass/Site Closure Summary Table "Out406MissedPassSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumNextPas		1	tinyint	Number of next pass solutions (rows) for Output Message in Table "Out406NextPass". (SQL Default is 0)
SarNameListPrev		60	varchar Nullable	List of Sar Names receiving previous alert for site. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header
SarNameListCur		60	varchar	List of Sar Names receiving current alert. (Format is aaaa, bbbb, ...). Expected to fit on 1 line with header

4.4.20: (RCC) Output Data Structure, 406 MHz Missed Pass/Site Closure Solution Table (supports SIT 168)

(RCC) Output Data Structure, 406 MHz Missed Pass/Site Closure Solution Table "Out406MissedPassSol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolId	1	4	int Identity	Unique Id of missed pass solution
OutMsgId	2:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
AlertSiteNum	3, 4.1 Foreign?	4	int	Alert Site unique Id
ASiteMisPasId	4.2 Foreign?	2	smallint	Missed Pass Id within Alert Site (is link into Alert Site Missed Pass Table)
BcnId15	5	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
Sol		1	char	Solution side: 'A' A solution 'B' B solution 'C' Composite solution 'E' Encoded solution
Lat		4	real	Latitude for missed pass
Lon		4	real	Longitude for missed pass
ASiteDuration		4	real	Alert Site Duration in hours
NumRptPas		2	smallint	Number of reported Passes in Alert Site
Sat		3	char Nullable	Satellite Id of received solution (set only when no site composite)
SolTca		8	datetime Nullable	Solution TCA or detect time (set only when no site composite)
SourceNameRccMsg		6	char Nullable	SAR Name of MCC/LUT that originally provided the solution (set only when no site composite)
SrrName1		6	char Nullable	Name of the primary SRR for the missed pass position.

(RCC) Output Data Structure, 406 MHz Missed Pass/Site Closure Solution Table ”Out406MissedPassSol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SrrName2		6	char Nullable	Name of the secondary SRR for the missed pass position.
NumMisPas		1	tinyint	Number of missed passes for position (A, B or E side or composite)
FinalMsg		1	char	Final missed pass message has been generated for solution (until missed pass counter is reset): ‘Y’ = yes ‘N’ = no
NumPrevSol		1	tinyint	Number of previous pass solutions in Table “Out406PrevSolutions” for the Missed pass solution. The previous passes are reported in the sequence the passes were received. Only the last “n” passes are reported. (SQL Default is 0)
NumNextPas		1	tinyint	Number of next pass solutions (rows) for the Missed Pass solution in Table “Out406NextPass” (SQL Default is 0)
NextPasId1		4	int	Missed pass solution first Next Pass Id in Table “Out406NextPass” (SQL Default is 0)
NextPasId2		4	int	Missed pass solution second Next Pass Id in Table “Out406NextPass” (SQL Default is 0)

4.4.21: (Mcc) Output Message SARP Telemetry Summary Table

(Mcc) Output Message SARP Telemetry Summary Table "OutTelemetrySARPSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
InMsgId	2:ix	4	int	Unique Id of associated Input message. On summary message, is last associated input message
OutLmtMsg		(1)	bit	Message type is out of limits: 0 No, is summary message 1 Yes
NowInLimit		(1)	bit	Pass is now in limits: 0 No (summary or pass out of limits) 1 Yes Currently this parameter is always 0. (SQL Default is 0)
AddTime		8	datetime	Time record added
DataBeginTime		8	datetime	Data Begin Time
DataEndTime		8	datetime	Data End Time
Sat		3	char	USMCC satellite identifier (SQL Default is Blanks)
SatIdNOAA		2	char	NOAA's satellite identifier:
OrbitBegin		4	int	Beginning Orbit Number
OrbitEnd		4	int	Ending Orbit Number
NumFrames		4	int	Total number of data frames
BadFrames		4	int	Number of bad frames
BadDataRate		4	real	Rate of data that is bad
AnalogParmAnomaly		1	tiny	Number of SARP Analog Parameters (Point Types) with Anomaly.
AnalogParmOutLmt		1	tiny	Number of SARP Analog Parameters (Point Types) that are Out of Limits.

(Mcc) Output Message SARP Telemetry Summary Table ”OutTelemetrySARPSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AnalogTotalOutLmt		4	int	Total number of SARP Analog Parameter Points (for all PointTypes) that are Out of Limits.
DigitalParmStatChg		1	tiny	Number of SARP Digital Parameters with Status Change.
DigitalTotalStatChg		4	int	Total number of SARP Digital Parameter Status Changes.
DriftParmAnomaly		1	tiny	Number of SARP Drift of Analog Parameters (Point Types) with Anomaly.
DriftParmOutLmt		1	tiny	Number of SARP Drift of Analog Parameters (Point Types) that are Out of Limits.
DriftTotalOutLmt		4	int	Total number of SARP Drift of Analog Parameter Points (for all PointTypes) that are Out of Limits.
NarrText			text	narrative text (contains body of telemetry message)

4.4.22: (Mcc) Output Message SARR Telemetry Summary Table

(Mcc) Output Message SARR Telemetry Summary Table ”OutTelemetrySARRSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgId	1:ix Foreign	4	int	Unique Id of Output message <FK=OutputMessage>
InMsgId	2:ix	4	int	Unique Id of associated Input message. On summary message, is last associated input message
OutLmtMsg		(1)	bit	Message type is out of limits: 0 No, is summary message 1 Yes (Out or in limits message)
NowInLimit		(1)	bit	Pass is now in limits: 0 No (summary or pass out of limits) 1 Yes (SQL Default is 0)
AddTime		8	datetime	Time record added
DataBeginTime		8	datetime	Data Begin Time
DataEndTime		8	datetime	Data End Time
Sat		3	char	USMCC satellite identifier (SQL Default is Blanks)
SatIdNOAA		2	char	NOAA’s satellite identifier:
OrbitBegin		4	int	Beginning Orbit Number
OrbitEnd		4	int	Ending Orbit Number
NumFrames		4	int	Total number of data frames
BadFrames		4	int	Number of bad frames
BadDataRate		4	real	Percentage of data that is bad
AnalogParmAnomaly		1	tiny	Number of SARR Analog Parameters (Point Types) with Anomaly.
AnalogTotalOutLmt		4	int	Total number of SARR Analog Parameter Points (for all PointTypes) that are Out of Limits.

(Mcc) Output Message SARR Telemetry Summary Table "OutTelemetrySARRSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
DigitalParmStatChg		1	tiny	Number of SARR Digital Parameters with Status Change.
DigitalTotalStatChg		4	int	Total number of SARR Digital Parameter Status Changes.
NarrText			text	narrative text (contains body of telemetry message)

5. Alert Site Data Structures

Alert sites are used to store information about active beacons and emergency signals. Data for a particular beacon, regardless of the source (i.e., LUTs and/or foreign MCCs), are stored in the tables described below. Each alert site will have at least one entry in a site summary table, a pass summary table, a solution table and an SRR message routi table. Sites with data from more than one satellite pass or source will have multiple entries in the pass summary and solution tables.

5.1 121/243 MHz, 406 Interferer Alert Site Tables

5.1.1 121/243 MHz, 406 Interferer Alert Site Summary Tables

121/243 MHz, 406 Interferer Alert Site Summary Tables ”AlertSite123Sum”, “AlertSiteInt4Sum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1	4	int Identity	Site Number: Unique Id of Alert Site
AlertSiteNum5	2	5	char Nullable:t	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
SiteFreq		1	tinyint	Site Frequency: 1 121.5 MHz 2 243 MHz 3 121.5 and 243 MHz 4 406 Interferer
Sol1Freq		1	tinyint	First Solution Frequency: 1 121.5 MHz 2 243 MHz 3 121.5 and 243 MHz 4 406 Interferer Is used along with Sol1Real and AlertSiteNum5 to identify a Site on a RCC message.
Closed	3	1	char	Site closed flag: ‘Y’ = yes, ‘N’= no (SQL Default is ‘N’)
Test		(1)	bit	Test Site: output messages are not formed (SQL Default is 0)

121/243 MHz, 406 Interferer Alert Site Summary Tables ”AlertSite123Sum”, “AlertSiteInt4Sum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
IHRptSent		(1)	bit	Incident history Feedback report sent. Extraction needed for IHDB (SQL Default is 0)
IHDBDone		(1)	bit	Extraction done for IHDB (SQL Default is 0)
ForcedOpen		(1)	bit	Site forced to remain open (SQL Default is 0)
ReasonClosed		1	char	Reason Site was closed: ‘F’ = forced by Operator ‘M’= missed passes ‘T’= time (age out) ‘ ’ = not closed (SQL Default is Blank)
OpenTime		8	datetime	Time Site opened (time of first entry)
LastEntryTime		8	datetime	Time last solution entered for Site
LastUpdTime		8	datetime	Time Site last updated
CloseTime		8	datetime Nullable	Time Site closed. Not set if Site is open
TcaFirst		8	datetime	Time of first (earliest) TCA
TcaLast		8	datetime	Time of last (latest) TCA
NumPas		2	smallint	Number of passes in site (SQL Default is 0)
Comp1SolId		2	smallint Nullable	Solution Id within Alert Site of the (last received) solution that generated the first Site composite
NumCompCalc		2	smallint	Site composite calculation number (eg., 1 for first composite). Matches Id in Site composite history table. (SQL Default is 0)
CompCalcTm1		8	datetime Nullable	Time of first composite calculation

121/243 MHz, 406 Interferer Alert Site Summary Tables ”AlertSite123Sum”, “AlertSiteInt4Sum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
CompLat1st		4	real Nullable	First Composite Latitude for Site, degrees [-90.0, +90.0]
CompLon1st		4	real Nullable	First Composite Longitude for Site, degrees [-180.0, +180.0]
CompCalcTmL		8	datetime Nullable	Time of last composite calculation
CompLat		4	real Nullable	Composite Latitude, degrees [-90.0, +90.0]
CompLon		4	real Nullable	Composite Longitude, degrees [-180.0, +180.0]
CompLatDev		4	real Nullable	Standard Deviation of Composite latitude, km
CompLonDev		4	real Nullable	Standard Deviation of Composite longitude, km
CompCorr		4	real Nullable	Composite Latitude/longitude correlation coefficient [-1.0, +1.0]
CompFreqBias		4	real Nullable	Composite frequency bias, in Hz [-25000 to +25000 for 121/243 MHz, -25000 to +75000 for 406 Interferer]. For 243 Mhz only sites, is stored relative to 121 Mhz, that is, as half of the actual bias.
CompFBiasDev		4	real Nullable	Standard Deviation of Composite frequency bias
CompSwpPeriod		4	real Nullable	Sweep period, seconds [0.25, 0.50] (does not apply to 406 Interferer?)
CompLocWeight		4	real Nullable	Composite location weight
CompFreqWeight		4	real Nullable	Composite frequency weight

121/243 MHz, 406 Interferer Alert Site Summary Tables ”AlertSite123Sum”, “AlertSiteInt4Sum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Sol1Real		1	char	A/B Real flag for first solution, which is the Real side of Composite: N No Composite A A side B B side Is used along with Sol1Freq and AlertSiteNum5 to identify a Site on a RCC message (SQL Default is ‘N’)
SpecSrrFlag		1	char	Special (exceptions processing) SRR flag: A Append normal routing with Special SRR table R Replace normal routing with Special SRR table N No special SRR table (SQL Default is ‘N’)
SpecSrr		16	varchar Nullable	Special (exceptions processing) SRR table, 4 chars per SRR, as in GEOSORT.
A_Lat		4	real	A Side Latitude, degrees [-90.0, +90.0], for first solution in Site
A_Lon		4	real	A Side Longitude, degrees [-180.0, +180.0], for first solution in Site
A_Srr		16	varchar Nullable	A Side SRR table (for first solution in Site), 4 chars per SRR, as in GEOSORT.
B_Lat		4	real	B Side Latitude, degrees [-90.0, +90.0], for first solution in Site
B_Lon		4	real	B Side Longitude, degrees [-180.0, +180.0], for first solution in Site
B_Srr		16	varchar Nullable	B Side SRR table (first solution): 4 chars per SRR, as in GEOSORT
NumSol		2	smallint	Number of solutions (elements) in alert site (SQL Default is 0)
NumSweepSol		2	smallint Nullable	Number of solutions in alert site with sweep (SQL Default is 0)

121/243 MHz, 406 Interferer Alert Site Summary Tables ”AlertSite123Sum”, “AlertSiteInt4Sum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumInterferSol		2	smallint Nullable	Number of solutions in alert site with interference (SQL Default is 0)
NumMsgSent		2	smallint	Number of output message sent: entries to Output Processing table created by Alert Processing. (SQL Default is 0)
NumSolMsg		2	smallint	Number of solutions resulting in output messages. (SQL Default is 0)
NumPasMsg		2	smallint	Number of passes with solutions resulting in output messages (SQL Default is 0)
NumMisPasMsg		2	smallint	Number of missed passes resulting in output messages (SQL Default is 0)
MsgTimeLast		8	datetime Nullable	Time last output message sent due to input solution
NumMisPas		2	smallint	Number of missed U.S. Lut passes for Alert Site. Is used to generate “ASiteMisPasId” in Alert Site Missed Pass Table. (SQL Default is 0)
A_NumMisPas		1	tinyint	A side number of missed U.S. Lut passes. (SQL Default is 0)
B_NumMisPas		1	tinyint	B side number of missed U.S. Lut passes. (SQL Default is 0)
CompNumMisPas		1	tinyint	Composite side number of missed U.S. Lut passes. Reset to zero when new pass data is received. (SQL Default is 0)
A_NxtPasLut		3	char Nullable	A (or composite) Lut of next visible pass scheduled by U.S. Lut
A_NxtPasSat		3	char Nullable	A (or composite) satellite of next visible pass scheduled by U.S. Lut
A_NxtPasOrbit		4	int Nullable	A (or composite) orbit number of next visible pass scheduled by U.S. Lut

121/243 MHz, 406 Interferer Alert Site Summary Tables ”AlertSite123Sum”, “AlertSiteInt4Sum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_NxtPasTm		8	datetime Nullable	A (or composite) Time of next visible pass scheduled by U.S. Lut
B_NxtPasLut		3	char Nullable	B next visible U.S. Lut
B_NxtPasSat		3	char Nullable	B Satellite of next visible pass scheduled by U.S. Lut
B_NxtPasOrbit		4	int Nullable	B Orbit number of next visible pass scheduled by U.S. Lut
B_NxtPasTm		8	datetime Nullable	B Time of next visible pass scheduled by U.S. Lut
A_NumPrimarySrr		1	tinyint	Number of primary SRRs in A Side (or encoded position) SRR table, for first solution in Cluster. (SQL Default is 0)
B_NumPrimarySrr		1	tinyint	Number of primary SRRs in B Side SRR table, for first solution in Cluster. (SQL Default is 0)

5.1.2 121/243 MHz Alert Site Data Structure, Pass Composite Table

The Pass A and B side values are set from the first location received for the pass**.**

121/243 MHz Alert Site Data Structure, Pass Composite Table ”AlertSite123Pass”, “AlertSiteInt4Pass”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1.1 Foreign	4	int	Site Number: unique Id of Alert Site <FK=AlertSite123Sum>, <FK=AlertSiteInt4Sum>
AlertSiteNum5	2	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
PassNum	1.2	2	smallint	Site pass number
PassReal		1	char	Pass A/B real side flag: A, B or N. (SQL Default is ‘N’)
PassFreq		1	tinyint	Pass Frequency: 1 121.5 MHz 2 243 MHz 3 121.5 and 243 MHz 4 406 Interferer
FirstEntryTime		8	datetime	Time first solution entered for Pass
LastEntryTime		8	datetime	Time last solution entered for Pass
NumComp		2	smallint	Number of times Pass composite has been computed (SQL Default is 0)
Sat		3	char	Satellite Identifier
Orbit		4	int	Orbit number (Set to 0 for MCC data: temp)
NumSol		2	smallint	Number of solutions (elements) in pass. (SQL Default is 1)?
NumSolMsg		2	smallint	Number of solutions resulting in output messages (SQL Default is 0)
SwpPeriod		4	real	Sweep period in milliseconds

121/243 MHz Alert Site Data Structure, Pass Composite Table ”AlertSite123Pass”, “AlertSiteInt4Pass”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SwpPerDev		4	real	Sweep period standard deviation in milliseconds
TcaFirst		8	datetime	First (earliest) TCA or detect time
TcaLast		8	datetime	Last (latest) TCA or detect time
A_Tca		8	datetime	TCA of A side
A_Lat		4	real	Latitude of A position
A_Lon		4	real	Longitude of A position
A_LatDev		4	real	A standard deviation of Latitude
A_LonDev		4	real	A standard deviation of Longitude
A_Corr		4	real	A latitude/longitude correlation
A_FreqBias		4	real	A frequency bias, Hz [-25000 to +25000 for 121/243 MHz, -25000 to +75000 for 406 Interferer]
A_FBiasDev		4	real	A standard Deviation frequency bias [0.0, 900.0]
A_LocWeight		4	real	A location weight
A_FreqWeight		4	real	A frequency weight
B_Tca		8	datetime	TCA of B side
B_Lat		4	real	Latitude of B position
B_Lon		4	real	Longitude of B position
B_Corr		4	real	B latitude/longitude correlation
B_LatDev		4	real	B Latitude standard deviation
B_LonDev		4	real	B Longitude standard deviation
B_FreqBias		4	real	B frequency bias, Hz [-25000 to +25000 for 121/243 MHz, -25000 to +75000 for 406 Interferer]

121/243 MHz Alert Site Data Structure, Pass Composite Table ”AlertSite123Pass”, “AlertSiteInt4Pass”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_FBiasDev		4	real	B standard Deviation frequency bias [0.0, 900.0]
B_LocWeight		4	real	B location weight
B_FreqWeight		4	real	B frequency weight

5.1.3 121/243 MHz Alert Site Data Structure, Solution Table

Note: If the Solution Table defines Columns for A and B sides for a field, but the received Doppler data format (eg., MCC) only contains one value for the A and B sides, then the one value is copied to the Columns for the A and B sides.

121/243 MHz Alert Site Data Structure, Solution Table ”AlertSite123Sol”, “AlertSiteInt4Sol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1.1, 2.1:ix Foreign	4	int	Site Number: unique Id of Alert Site <FK=AlertSite123Sum>, <FK=AlertSiteInt4Sum>
AlertSiteNum5	3	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
PassNum	2.2:ix	2	smallint	Site pass number
AlertSiteSolId	1.2	2	smallint	Solution Id within Alert Site
PasSolId	2.3:ix	2	smallint	Solution Id within Pass
RedunSolId		2	smallint Nullable	Solution Id within Pass for which this solution is redundant.
InSolId	4:ix	4	int	Solution Id in Input Table
SitFunc		2	smallint	Sit Number [100-199] or U.S. Lut function code [1-9].
ValidCode		(1)	bit	Validation Code(s) exist for solution in Validation Results Table (SQL Default is 0)

121/243 MHz Alert Site Data Structure, Solution Table ”AlertSite123Sol”, “AlertSiteInt4Sol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
FilterCode		(1)	bit	Filter Code(s) exist for solution in Filtering Results Table (SQL Default is 0)
AAPassMatch		(1)	bit	A side of solution matches Pass Composite A side (SQL Default is 1)
SolFreq		1	tinyint	Solution Frequency: 1 121.5 MHz 2 243 MHz 3 121.5 and 243 MHz 4 406 Interferer
GenTime		8	datetime	Time solution generated at U.S. Lut or sent by reporting MCC
RcvTime		8	datetime	Time solution received at USMCC
AddTime		8	datetime	Time solution added to Alert Site
SourceId		2	smallint	Identification code of MCC/LUT that originally provided the solution
SourceName		6	char	Name of source of solution (eg., AK1, AUMCC1)
SourceMccName		16	varchar Nullable	Name of MCC responsible for LUT, per DDP. Derived from field MccComSiteName in table LutCfg. Is “USMCC” for U.S. Lut data.
ReportMccName		16	varchar	Name of MCC reporting data to USMCC. For MCC data, is derived from field ComSiteName in table InputMessage. Is “USMCC” for U.S. Lut data..
SourceMsgNum		4	int	US LUT or MCC message number. Derived from LutSolId for U.S. Lut, from CurMsgNum for MCC data.
Sat		3	char	Satellite Identifier
Orbit		4	int	Orbit number (Set to 0 for MCC data:temp)

121/243 MHz Alert Site Data Structure, Solution Table ”AlertSite123Sol”, “AlertSiteInt4Sol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SolReal		1	char	Solution real side flag (A, B or N) (SQL Default = ‘N’)
Disp		1	char	Disposition of alert: S= Suppressed from Merge P= Processed in Merge, no message M= Processed in Merge, message ‘U’=Unknown (SQL Default = ‘U’)
DispRsn		1	char	Disposition reason/detail: If Suppressed: F Filtered data L Late data (Site Closed) O Old data R Redundant data If Processed, with no message: F Filtered data R Redundant data If Processed, with output message: F First Alert R First Resolved Alert U Updated Resolved Alert (SQL Default is ‘ ’)
NumSideBand		2	smallint	Number of sidebands merged into this solution. 0 = no sidebands. (SQL Default is 0)
SideBandId		255	varbin Nullable	Input solution Identifiers for the sidebands (4 byte int per sideband)
SideBandIdC		255	varchar Nullable	Input solution Identifiers for the sidebands (character numeric per sideband, comma separated)
A_Prob		2	smallint	Probability that A solution is real [0, 100]
Points		2	smallint	Number of points on Doppler curve

121/243 MHz Alert Site Data Structure, Solution Table "AlertSite123Sol", "AlertSiteInt4Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
TmFirstPt		2	smallint Nullable	Time of first point from TCA in seconds (Set to 0 for MCC data: temp)
TmCurve		2	smallint Nullable	Number of seconds covered by curve (Set to -1 for MCC data: temp)
TcaWindow		4	real	Calculated Window factor between -10 and 10 (-1.0 to +1.0 = TCA in Windows). Same as TcaWindowRcv for MCC data
TcaWindowRcv		1	tinyint	Received Window Factor (range 0 to 9) 0 TCA included in Doppler curve 1->9 TCA not in Doppler curve
SwpPeriod		4	real	Sweep period in milliseconds
SwpPerDev		4	real	Sweep period standard deviation in milliseconds
SwpScore		4	real	Data quality rating (sweep score)
SwpShift		4	real Nullable	Sweep shift, Hz (U.S. LUTs only) (Set to 0.0 for MCC data: temp)
SnRatio		4	real	Signal to noise ratio, db for US LUTs, or power indicator, mW for MCCs
CorrScore		4	real Nullable	Correlation Score, US LUTs (Set to 0.0 for MCC data: temp)
A_Lat		4	real	Latitude location of A solution
A_Lon		4	real	Longitude location of A solution
A_Tca		8	datetime	Time of Closest Approach for A curve
A_Cta		4	real	Cross track angle for A curve
A_LatDev		4	real	A Standard Deviation of latitude
A_LonDev		4	real	A Standard Deviation of longitude
A_Corr		4	real	A latitude/longitude correlation

121/243 MHz Alert Site Data Structure, Solution Table "AlertSite123Sol", "AlertSiteInt4Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_FreqBias		4	real	A frequency bias, Hz [-25000 to +25000 for 121/243 MHz, -25000 to +75000 for 406 Interferer]
A_FBiasDev		4	real	A frequency bias std dev, [0.0, 90.0]
A_FreqDrift		4	real	A frequency bias drift in Hz/min
A_Noise		4	real	A Measurement noise or data residual standard deviation in Hz [0.0, 250.0]
A_Trend		4	real	A trend factor, Hz
A_LocWeight		4	real	A location weight
A_FreqWeight		4	real	A frequency weight
A_NxtVisTm		8	datetime Nullable	Next time of visibility for A position (from reporting MCC only) For U.S. Lut data is "2000 Jan 1:00:00.000": temp
A_Srr1		4	char	Primary SRR of the A position (computed by the US MCC). SQL Default is 0s
A_Srr2		4	char	Secondary SRR of the A position, computed by the US MCC. (SQL Default is 0s)
A_AbRcv		1	char	Ambiguity resolution flag received: + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (New Sits only, SQL Default is blank), Encoded position is not applicable
A_Heading		2	smallint	A Error Ellipse heading in degrees (range 0 to 359), computed if US LUT is source
A_Major		4	real	A major axis in km (range 000.1 to 999.9), computed if US LUT is source

121/243 MHz Alert Site Data Structure, Solution Table "AlertSite123Sol", "AlertSiteInt4Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_Minor		4	real	A minor axis in km (range 000.1 to 999.9), computed if US LUT is source
A_Conf		1	tinyint	A confidence factor computed by USMCC (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
A_ConfRcv		1	tinyint	A confidence factor received (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
A_NumIter		1	tinyint	A Number of iterations
B_Lat		4	real	Latitude location of B solution
B_Lon		4	real	Longitude location of B solution
B_Tca		8	datetime	Time of closest approach for B curve
B_Cta		4	real	Cross track angle for B curve
B_LatDev		4	real	B Standard Deviation of latitude
B_LonDev		4	real	B Standard Deviation of longitude
B_Corr		4	real	B latitude/longitude correlation
B_FreqBias		4	real	B frequency bias, Hz [-25000 to +25000 for 121/243 MHz, -25000 to +75000 for 406 Interferer]
B_FBiasDev		4	real	B frequency bias std dev, [0.0, 90.0]
B_FreqDrift		4	real	B frequency bias drift in Hz/min
B_Noise		4	real	B Measurement noise or data residual standard deviation in Hz [0.0, 250.0]

121/243 MHz Alert Site Data Structure, Solution Table ”AlertSite123Sol”, “AlertSiteInt4Sol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_Trend		4	real	B trend in Hz
B_LocWeight		4	real	B location weight
B_FreqWeight		4	real	B frequency weight
B_NxtVisTm		8	datetime Nullable	Next time of visibility for B position (from reporting MCC only) For U.S. Lut data is “2000 Jan 1:00:00.000”: temp
B_Srr1		4	char	Primary SRR of the B position (computed by the US MCC). SQL Default is 0's.
B_Srr2		4	char	Secondary SRR of the B position, computed by the US MCC. (SQL Default is 0s)
B_AbRcv		1	char	Ambiguity resolution flag received + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (New Sits only, SQL Default is blank)
B_Heading		2	smallint	B Error Ellipse heading in degrees (range 0 to 359), computed if US LUT is source
B_Major		4	real	B major axis in km (range 000.1 to 999.9), computed if US LUT is source
B_Minor		4	real	B minor axis in km (range 000.1 to 999.9), computed if US LUT is source
B_Conf		1	tinyint	B confidence factor computed by USMCC (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value

121/243 MHz Alert Site Data Structure, Solution Table ”AlertSite123Sol”, “AlertSiteInt4Sol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_ConfRcv		1	tinyint	B confidence factor received (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value
B_NumIter		1	tinyint	B Number of iterations
PoorAccWarn		1	char Nullable	Poor Solution Accuracy warning flag, computed per SID field 61: ‘Y’ = solution accuracy is suspect, ‘N’ = solution accuracy is not suspect

5.1.4 121/243 MHz Alert Site Data Structure, SRR Table

121/243 MHz Alert Site Data Structure, SRR Table ”AlertSite123SRR”, “AlertSiteInt4SRR”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1.1, 2:ix Foreign	4	int	Site Number: Unique Id of Alert Site <FK=AlertSite123Sum>, <FK=AlertSiteInt4Sum>
AlertSiteNum5	3	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
Srr	1.2	4	char	Search and Rescue Region Id
SendMsgLevel		1	tinyint	Send output message level: 0 Suppress all messages 1 Send until ambiguity resolved (MCC default) 2 Send all messages unless resolved position not in SRR, i.e., send continued composites. (RCC, SPOC default) 3 Send all messages regardless of ambiguity resolution Note that the SendMsgLevel is usually set to 1 or 2 in this table; a value of 0 or 3 is set by the Operator as needed.
SendCompLimit		2	smallint	Maximum number of Composite passes to send (applies if: SendMsgLevel = 2): -1 No limit > -1 Maximum number (SQL default = -1)
PrimarySrr		(1)	bit	This is a primary SRR . Before ambiguity is resolved, is set on if SRR is primary for any location. If Site Composite in SRR, flag is reset based on Cluster location of Composite. This flag always is 1 for a SRR added due to Exception Processing. (SQL Default is 1)
ASide		(1)	bit	A side in SRR (SQL Default is 0)

121/243 MHz Alert Site Data Structure, SRR Table "AlertSite123SRR", "AlertSiteInt4SRR"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
BSide		(1)	bit	B side in SRR (SQL Default is 0)
Comp		(1)	bit	Site Composite in SRR (SQL Default is 0)
SentMsg		(1)	bit	A message was sent to SRR . Is used to determine "Previous Srr List". (SQL Default is 0)
IHRptSent		(1)	bit	Incident history Feedback report sent to SRR (SQL Default is 0)
AddTime		8	datetime	Time record added
LastUpdTime		8	datetime	Time record last updated

5.1.5 121/243 MHz Alert Site Data Structure, Missed Pass Table

MHz Alert Site Data Structure, Missed Pass Table ”AlertSite123MissedPass”, “AlertSiteInt4MissedPass”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1.1	4	int	Site Number: Unique Id of Alert Site <FK=AlertSite123Sum> <FK=AlertSiteInt4Sum>
AlertSiteNum5	2	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
ASiteMisPasId	1.2	2	smallint	Identifier of missed pass within Alert Site
Sol		1	char	Solution type: A A side B B side C Composite
Lut		3	char	Lut that missed pass
Sat		3	char	Satellite of missed pass
Orbit		4	int	Orbit number of missed pass
BcnTca		8	datetime	Beacon TCA of missed pass
LutLos		8	datetime	Lut LOS of missed pass
Lat		4	real	Latitude of missed detection
Lon		4	real	Longitude of missed detection
NumMisPas		1	tinyint	Current number of missed passes for position (A, B or E side or composite), including the current missed pass.
AddTime		8	datetime	Time record added

5.1.6 121/243 MHz Alert Site Data Structure, Composite (Merge) History Table

This table contains a history of merges or composites within Alert Sites. It may contain Site composites, Pass composites, and single pass sideband merges. (Whether this table is written is configurable.) Its main purpose is to record the values for intermediate merges, which would not otherwise be available in the Alert Site.

The solution data referred to in this table is the last input solution processed, that is, the solution that prompted the n merge. For a Site composite, the Pass Number (PassNum) is 0, the A side values are set for the Site composite and the B side values are not set. For a Site composite or Pass composite, the Side Band Number (SideBandNum) is 0.

121/243 MHz Alert Site Data Structure, Composite (Merge) History Table ”AlertSite123CompHistory”, “AlertSiteInt4CompHistory”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1.1, 2.1	4	int	Site Number: unique Id of Alert Site <FK=AlertSite123Sum> <FK=AlertSiteInt4Sum>
AlertSiteNum5	3	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
PassNum	1.2	2	smallint	Site pass number. 0 means Site Composite.
AlertSiteSolId	2.2	2	smallint	Solution Id within Alert Site
PasSolId	1.3	2	smallint	Solution Id within Pass
SideBandNum	1.4	2	smallint	Side Band Number within Pass solution. 0 means not side band merge record.
InSolId	4	4	int	Solution Id in Input Table
SitFunc		2	smallint	Sit Number [100-199] or U.S. Lut function code [1-9].
AddTime		8	datetime	Time record added to Alert Site: merge calculation time
SourceName		6	char	Name of source of solution (eg., AK1, AUMCC1)
Sat		3	char	Satellite Identifier for solution
SwpPeriod		4	real	Sweep period in milliseconds

121/243 MHz Alert Site Data Structure, Composite (Merge) History Table "AlertSite123CompHistory", "AlertSiteInt4CompHistory"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SwpPerDev		4	real Nullable	Sweep period standard deviation in milliseconds. Not set on site composite.
A_Tca		8	datetime	Time of Closest Approach for A (or site composite) curve
A_Lat		4	real	Latitude location of A (or site composite) solution
A_Lon		4	real	Longitude location of A (or site composite) solution
A_LatDev		4	real	A (or site composite) Standard Deviation of latitude
A_LonDev		4	real	A (or site composite) Standard Deviation of longitude
A_Corr		4	real	A (or site composite) latitude/longitude correlation
A_FreqBias		4	real	A (or site composite) frequency bias, Hz [-25.0 , +25.0]
A_FBiasDev		4	real	A (or site composite) frequency bias standard deviation, [0.0, 90.0]
A_LocWeight		4	real	A (or site Composite) location weight
A_FreqWeight		4	real	A (or site Composite) frequency weight
B_Tca		8	datetime Nullable	Time of closest approach for B curve
B_Lat		4	real Nullable	Latitude location of B solution
B_Lon		4	real Nullable	Longitude location of B solution
B_LatDev		4	real Nullable	B Standard Deviation of latitude

121/243 MHz Alert Site Data Structure, Composite (Merge) History Table ”AlertSite123CompHistory”, “AlertSiteInt4CompHistory”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_LonDev		4	real Nullable	B Standard Deviation of longitude
B_Corr		4	real Nullable	B latitude/longitude correlation
B_FreqBias		4	real Nullable	B frequency bias, Hz [-25.0 , +25.0]
B_FBiasDev		4	real Nullable	B frequency bias standard deviation, [0.0, 90.0]
B_LocWeight		4	real Nullable	B location weight
B_FreqWeight		4	real Nullable	B frequency weight

5.2 406 MHz Alert Site Tables

5.2.1 406 MHz Alert Site Data Structure, Summary Table

In the Summary Table, the Beacon Decode fields (eg., "ActivType" = Activation Type) are derived from the first Beacon Id in the Alert site, and correspond to fields in Table "Out406BcnDecode".

406 MHz Alert Site Data Structure, Summary Table "AlertSite406Sum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1	4	int Identity	Site Number: Unique Id of Alert Site
AlertSiteNum5	2	5	char Nullable:t	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
BcnId15	3:ix	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144), hexadecimal character, of first solution in Alert site.
Closed	4	1	char	Site closed flag: 'Y' = yes, 'N'= no (SQL Default is 'N')
Mid		2	smallint	Maritime Identification Digits (Country), from 406 Beacon Id
MidName		16	varchar	Country (MID) name. (RCC, SPOC message MF 50). SQL Default is "Unassigned"
CraftId		12	varchar Nullable	Beacon Craft Id (RCC, SPOC message MF 52?)
SpecificBcn		2	char Nullable	Specific Beacon id on aircraft or vessel. (SPOC message MF 59 ?)
Homing		8	varchar	Beacon Homing: "Maritime", "121.5", "Other" or "NIL". (RCC, SPOC message MF 57)
Manufact		16	varchar Nullable	Beacon Manufacturer (RCC, SPOC message MF 60)

406 MHz Alert Site Data Structure, Summary Table “AlertSite406Sum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Model		16	varchar Nullable	Beacon Model Number (RCC, SPOC message MF 60)
ManufSeqNum		2	smallint Nullable	Beacon Manufacturer Sequence Number and Model (RCC message)
SerialNum		12	varchar Nullable	Beacon Serial Number. If Special Program beacon, (“SpecialProgramName” is set) , then “SerialNum” contains the Id of the Beacon within the Program. The Special Program Id is (RCC message, SPOC message MF 52?). On
BcnType		24	varchar Nullable	Beacon type: eg. “Float Free” (RCC message)
UserClass		32	varchar Nullable	Beacon User class. Initially matches BcnType. (SPOC message MF 51)
EmergCode		32	varchar Nullable	Beacon Emergency Code, per C/S T.001. (SPOC message MF 53)
UpdateType		1	char	Encoded position update device type ‘I’ = Internal ‘E’ = External ‘N’= Not applicable (SQL Default is ‘N’. SPOC message MF 55)
ActivType		1	char	Beacon Activation type: ‘M’ = Manual ‘U’ = Unknown (SQL Default is ‘U’. SPOC message MF 58)
BcnCraftNum		2	smallint Nullable	Beacon number on aircraft or vessel. (SPOC message MF 59)
InMsgId925		4	int Nullable	Message Id for (last) Input Sit 925 for 406 Beacon Id

406 MHz Alert Site Data Structure, Summary Table "AlertSite406Sum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RegType		1	char	USMCC Registration Database Output message Beacon type: 'E' = EPIRB 'L' = ELT 'P'= PLB 'N'= None (Beacon not Registered) ' '= Registration DB not checked (SQL Default is ' ')
Test		(1)	bit	Test Site: no output message will be formed (SQL Default is 0)
BadBcnId15		(1)	bit	15 Hex Beacon Id is bad (SQL Default is 0)
BlownSol		(1)	bit	Blown (Position Conflict) solution exists for Alert site (SQL Default is 0)
MidSentNocr		(1)	bit	Notification of Country of Registration sent to SRR for Beacon Mid (SQL Default is 0)
MidSentLocMsg		(1)	bit	Located Alert Message sent to SRR for Beacon Mid (SQL Default is 0)
IHRptSent		(1)	bit	Incident history Feedback report sent. Extraction needed for IHDB (SQL Default is 0)
IHDBDone		(1)	bit	Extraction done for IHDB (SQL Default is 0)
ForcedOpen		(1)	bit	Site forced to remain open (SQL Default is 0)
ReasonClosed		1	char	Reason Site was closed: 'F' = forced by Operator 'M'= missed passes 'T'= time (age out) ' ' = not closed (SQL Default is Blank)
OpenTime		8	datetime	Time Site opened (time of first entry)

406 MHz Alert Site Data Structure, Summary Table "AlertSite406Sum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LastEntryTime		8	datetime	Time last solution entered for Site
LastUpdTime		8	datetime	Time Site last updated
CloseTime		8	datetime Nullable	Time Site closed. Not set if Site is open
TcaFirst		8	datetime	Time of first (earliest) TCA
TcaLast		8	datetime	Time of last (latest) TCA
NumPas		2	smallint	Number of passes (virtual events) in Site. If encoded data, is greater than NumRptPas. (SQL Default is 0)
NumRptPas		2	smallint	Number of reported passes (reported events) in Site. (SQL Default is 0)
NumRptPasInComp		2	smallint	Number of reported passes in Site composite. Used to limit message traffic after ambiguity resolved. (SQL Default is 0)
NumLocCluster		2	smallint	Number of location clusters in site. A location cluster is composed of one or more solutions in a pass (event) with 'matching' positions. (SQL Default is 0)
NumDopClust		2	smallint	Number of Doppler location clusters in site. (SQL Default is 0)
NumEncClust		2	smallint	Number of Encoded location clusters in site. (SQL Default is 0)
NumDopClustInComp		2	smallint	Number of Doppler location clusters in site composite. Set to Zero until ambiguity is resolved. (SQL Default is 0)
NumEncClustInComp		2	smallint	Number of Encoded location clusters in site composite. Set to Zero until ambiguity is resolved. (SQL Default is 0)
NumBlownPas		2	smallint	Number of reported passes in site with blown solutions. Set to Zero until ambiguity is resolved. (SQL Default is 0)

406 MHz Alert Site Data Structure, Summary Table "AlertSite406Sum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
UpdDopSolid		2	smallint	Solution Id within Alert Site that generated an updated Doppler Alert before ambiguity resolution, due to improved (A) probabilty. (SQL Default is 0)
Comp1PassNumL		2	smallint Nullable	Number within Alert Site of the (later received) virtual pass that generated the first Site composite
Comp1ClustNumL		2	smallint Nullable	Number within Alert Site of the (later received) cluster that generated the first Site composite
Comp1SolId		2	smallint Nullable	Solution Id within Alert Site of the (last received) solution that generated the first Site composite
NumCompCalc		2	smallint	Site composite calculation number (eg., 1 for first composite). Matches Id in Site composite history table. (SQL Default is 0)
CompCalcTm1		8	datetime Nullable	Time of first composite calculation
CompCalcTmL		8	datetime Nullable	Time of last composite calculation
CompLat		4	real Nullable	Composite Latitude, degrees [-90.0, +90.0]
CompLon		4	real Nullable	Composite Longitude, degrees [-180.0, +180.0]
CompLatDev		4	real Nullable	Standard Deviation of Composite latitude, km
CompLonDev		4	real Nullable	Standard Deviation of Composite longitude, km
CompCorr		4	real Nullable	Composite Latitude/longitude correlation coefficient [-1.0, +1.0].

406 MHz Alert Site Data Structure, Summary Table "AlertSite406Sum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
CompFreqBias		4	real Nullable	Composite frequency bias, in MHz.
CompFBiasDev		4	real Nullable	Standard Deviation of Composite frequency bias.
CompLocWeight		4	real Nullable	Composite location weight
SpecSrrFlag		1	char	Special (exceptions processing) SRR flag: A Append normal routing with Special SRR table R Replace normal routing with Special SRR table N No special SRR table (SQL Default is 'N')
SpecSrr		16	varchar Nullable	Special (exceptions processing) SRR table, 4 chars per SRR, as in GEOSORT.
A_Lat		4	real Nullable	A Side Latitude, degrees [-90.0, +90.0], for first Doppler solution in Site
A_Lon		4	real Nullable	A Side Longitude, degrees [-180.0, +180.0], for first Doppler solution in Site
A_Srr		16	varchar Nullable	A Side SRR table (for first Doppler solution in Site), 4 chars per SRR, as in GEOSORT.
B_Lat		4	real Nullable	B Side Latitude, degrees [-90.0, +90.0], for first Doppler solution in Site
B_Lon		4	real Nullable	B Side Longitude, degrees [-180.0, +180.0], for first Doppler solution in Site
B_Srr		16	varchar Nullable	B Side SRR table (for first Doppler solution in Site): 4 chars per SRR, as in GEOSORT
EncLat		4	real Nullable	Latitude, degrees [-90.0, +90.0], for first Encoded solution in Site
EncLon		4	real Nullable	Longitude, degrees [-180.0, +180.0], for first Encoded solution in Site

406 MHz Alert Site Data Structure, Summary Table "AlertSite406Sum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
EncSrr		16	varchar Nullable	SRR table for first encoded solution in Site: 4 chars per SRR, as in GEOSORT
NumSol		2	smallint	Number of solutions (elements) in alert site (SQL Default is 0)
NumLocSol		2	smallint	Number of solutions in alert site with Doppler or encoded location (SQL Default is 0)
NumDopSol		2	smallint	Number of solutions in alert site with Doppler position. (SQL Default is 0)
NumEncSol		2	smallint	Number of solutions in alert site with encoded position. (SQL Default is 0)
EncFirstSolId		2	smallint	Number of the first solution in alert site with encoded position. (SQL Default is 0)
EncLastSolId		2	smallint	Number of the last solution in alert site with encoded position. (SQL Default is 0)
NumBlownSol		2	smallint	Number of blown solutions in site. Set to Zero until ambiguity is resolved. (SQL Default is 0)
NumMsgSent		2	smallint	Number of output message sent: entries in OutputProcess table created by Alert Process. (SQL Default is 0)
NumSolMsg		2	smallint	Number of solutions resulting in output messages (SQL Default is 0)
NumPasMsg		2	smallint	Number of passes with solutions resulting in output messages (SQL Default is 0)
NumMisPasMsg		2	smallint	Number of missed passes resulting in output messages (SQL Default is 0)
MsgTimeLast		8	datetime Nullable	Time last output message sent due to input solution

406 MHz Alert Site Data Structure, Summary Table “AlertSite406Sum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumMisPas		2	smallint	Number of missed U.S. Lut passes for Alert Site. Is used to generate “ASiteMisPasId” in Alert Site Missed Pass Table. (SQL Default is 0)
A_NumMisPas		1	tinyint	A side number of missed U.S. Lut passes. (SQL Default is 0)
B_NumMisPas		1	tinyint	B side number of missed U.S. Lut passes. (SQL Default is 0)
EncNumMisPas		1	tinyint	Encoded position number of missed U.S. Lut passes. (SQL Default is 0)
CompNumMisPas		1	tinyint	Composite side number of missed U.S. Lut passes. Reset to zero when new pass data is received. (SQL Default is 0)
A_NxtPasLut		3	char Nullable	A (or composite) Lut of next visible pass scheduled by U.S. Lut
A_NxtPasSat		3	char Nullable	A (or composite) satellite of next visible pass scheduled by U.S. Lut
A_NxtPasOrbit		4	int Nullable	A (or composite) orbit number of next visible pass scheduled by U.S. Lut
A_NxtPasTm		8	datetime Nullable	A (or composite) Time of next visible pass scheduled by U.S. Lut
B_NxtPasLut		3	char Nullable	B next visible U.S. Lut
B_NxtPasSat		3	char Nullable	B Satellite of next visible pass scheduled by U.S. Lut
B_NxtPasOrbit		4	int Nullable	B Orbit number of next visible pass scheduled by U.S. Lut
B_NxtPasTm		8	datetime Nullable	B Time of next visible pass scheduled by U.S. Lut
EncNxtPasLut		3	char Nullable	Encoded position next visible U.S. Lut

406 MHz Alert Site Data Structure, Summary Table “AlertSite406Sum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
EncNxtPasSat		3	char Nullable	Encoded position Satellite of next visible pass scheduled by U.S. Lut
EncNxtPasOrbit		4	int Nullable	Encoded position Orbit number of next visible pass scheduled by U.S. Lut
EncNxtPasTm		8	datetime Nullable	Encoded position Time of next visible pass scheduled by U.S. Lut
RealSide		1	char Nullable	First solution real side: ‘A’ = first received “A” is real, ‘B’ = first received “B” is real, ‘O’ = Real is other than first A or B, ‘N’ = Ambiguity not resolved
MsgTypeLastTca		8	datetime Nullable	Tca or Detect Time of last (highest) input solution that generated an Alert Message Type. Is used to determine if an Updated Unlocated message is required.
SpecProgramName		24	varchar Nullable	Special Program name for National Use Beacon Id. The Id of Beacon within Special Program is contained in “SerialNum”. The name is normally derived from “FilterId in the associated row in the “Alert124FilterCfg” table. If the name not known, then the value is set to “Unknown” .
SpecProgBcnId15		15	char Nullable	The Beacon Id that is used to reference Beacon Registration data for the Special Program.

5.2.2 406 MHz Alert Site Data Structure, Pass (Beacon Event) Composite Table

This table contains data on the satellite Pass or Beacon Event level. It contains an entry for every LEO satellite Pass Beacon Event, where detections are assumed to be for the same Beacon Event if and only if they are within "X" (eg 20) minutes. It contains an entry for every GEO satellite that detects a beacon, where detections are assumed to be fo the same Beacon Event if and only if they are within "Y" (configurable) minutes. (Currently, all detections from a G satellite are considered to be from the same pass; in effect "Y" is infinite.) These two types of entries are called reported passes. They are referred to in Column RptPassNum in this table, and in Column NumRptPas in the 406 Al Site Summary Table.

In addition, this table contains an entry (or entries) for Position data encoded in the 406 MHz Beacon Id, where detections are assumed to be for the same Beacon Event only if 1) their times are within "Z" (eg., 20) minutes and 2) their encoded positions either identical or outside of the (50 Km) matching distance. (These assumption may be alte based on operational experience with Location Protocol Beacons.). Such an entry does not belong to a particular satellite, since the same encoded beacon data may be reported by different satellites. It is therefore included in this table with a nominal satellite identifier ("E0 "). Such an entry is referred to as an encoded pass. Thus a solution wit encoded data will be accounted for by reporting pass and by encoded pass, meaning there are two entries in this table

Both reported passes and encoded passes, insofar as they cause entries in this table, are called "virtual passes". The number of virtual passes are referred to in Column PassNum in this table and in Column NumPas in the 406 Alert S Summary Table. In distinguishing virtual passes, the main intention is to keep track of independent calculations of beacon locations, whether this is due to a satellite pass or data encoded in the beacon id. The merging of 406 locatio data is primarily stored in the Pass Location Cluster Table (section 5.2.3), which is a subset of this table.

All references to "pass" in the following table refer to the virtual pass, unless noted otherwise. For encoded positions (Sat="E0 "), only the A side values (eg., A_Lat) are set. If there is no Site composite, then the Pass A and B side values are set from the first location received for the virtual pass. Once a Site composite is formed, then the Pass A a B side values are set from the location cluster within the pass that matches the Site composite.

406 MHz Alert Site Data Structure, Pass (Beacon Event) Composite Table "AlertSite406Pass"

Field Name	Key	Bytes	Data Type	Description
AlertSiteNum	1.1 Foreign	4	int	Site Number: unique Id of Alert Site <FK=AlertSite406Sum>
AlertSiteNum5	2	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
PassNum	1.2	2	smallint	Site (virtual) pass number

406 MHz Alert Site Data Structure, Pass (Beacon Event) Composite Table "AlertSite406Pass"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RptPassNum		2	smallint	Site reporting pass number. For an encoded pass (SAT="E0 "), is set to first reporting pass received
BcnId15	3	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144), hexadecimal character, of first solution for pass
PassReal		1	char	Pass A/B real side flag (A, B or N). For encoded pass, set to (A or N). (SQL Default is 'N')
FirstEntryTime		8	datetime	Time first solution entered for Pass
LastEntryTime		8	datetime	Time last solution entered for Pass
CompNum		2	smallint	Pass composite computation number (SQL Default is 0)
Sat		3	char	Satellite Identifier ("E0 " means encoded position)
Orbit		4	int	Orbit number (for encoded position, set from first reporting pass). Set to 0 for MCC data: temp.
NumSol		2	smallint	Number of solutions (elements) for pass in solution table. (SQL Default is 0)
NumBlownSolVPas		2	smallint	Number of blown solutions in virtual pass: zero until ambiguity resolved. For reporting pass (Sat not "E0 "), is number of blown Doppler solutions (SQL Default is 0)
NumBlownSolRPas		2	smallint	Number of blown solutions in reporting pass: zero until ambiguity resolved. For encoded pass ("E0 " Sat), = BlownSolNumVPas. (SQL Default is 0)

406 MHz Alert Site Data Structure, Pass (Beacon Event) Composite Table "AlertSite406Pass"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumLocCluster		2	smallint	Number of location clusters in the virtual pass. A location cluster is composed of one or more solutions in a pass (event) with 'matching' positions. (SQL Default is 0)
CompClusterId		2	smallint	Id of location cluster within virtual pass that merged to site composite. (SQL Default is 0)
NumSolMsg		2	smallint	Number of solutions in reporting pass resulting in output messages. (SQL Default is 0)
TcaFirst		8	datetime	Time of first (earliest) TCA or detect time
TcaLast		8	datetime	Time of last (latest) TCA or detect time
PassTca		8	datetime	Mean Tca for pass (includes detect times)
TcaWeight		4	real	Weight of PassTca
BestDopSolId		2	smallint	Id within Alert Site of best quality Doppler Solution in reporting pass; used to determine Poor Quality Postion Conflict solutions. 0 means does not apply. (SQL Default is 0)
NumBestDopUpd		1	tinyint	Number of times that the best quality Doppler Solution in reporting pass was updated. (SQL Default is 0)
BestFBiasDev		4	real Nullable	Best Doppler solution Frequency bias standard deviation, [0.0, 90.0]
BestTcaWindow		4	real Nullable	Best Doppler solution Calculated Window factor between -10 and 10 (-1.0 to +1.0 = TCA in Windows). Same as TcaWindowRcv for MCC data
BestMinor		4	real Nullable	Best Doppler solution Minor axis in km (range 000.1 to 999.9), computed if US LUT is source

406 MHz Alert Site Data Structure, Pass (Beacon Event) Composite Table "AlertSite406Pass"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_Tca		8	datetime Nullable	TCA of A side (or detect time)
A_Lat		4	real Nullable	Latitude of A (or encoded) position
A_Lon		4	real Nullable	Longitude of A (or encoded) position
A_LatDev		4	real Nullable	A (or encoded position) Standard deviation of Latitude
A_LonDev		4	real Nullable	A (or encoded position) Standard deviation of Longitude
A_Corr		4	real Nullable	A (or encoded position) Latitude/longitude correlation
A_FreqBias		4	real Nullable	A Frequency bias [-25.0, +25.0]
A_FBiasDev		4	real Nullable	A Standard Deviation frequency bias [0.0, 900.0]
A_LocWeight		4	real Nullable	A location weight
B_Tca		8	datetime Nullable	TCA of B side
B_Lat		4	real Nullable	Latitude of B position
B_Lon		4	real Nullable	Longitude of B position
B_Corr		4	real Nullable	B Latitude/longitude correlation
B_LatDev		4	real Nullable	B Latitude standard deviation
B_LonDev		4	real Nullable	B Longitude standard deviation

406 MHz Alert Site Data Structure, Pass (Beacon Event) Composite Table "AlertSite406Pass"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_FreqBias		4	real Nullable	B frequency bias [-25.0, +25.0]
B_FBiasDev		4	real Nullable	B standard Deviation frequency bias [0.0, 900.0]
B_LocWeight		4	real Nullable	B location weight

5.2.3 406 MHz Alert Site Data Structure, Pass Location Cluster Composite Table

This table contains data within a virtual pass, as described in Table "AlertSite406Pass", where the Doppler or encod locations are within the matching distance of "N" (configurable) kilometers that allows ambiguity to be resolved. (If locations are out of the matching distance of "N" kilometers, then the solution is a "Blown" or "Position Conflict" A Every 406 solution with location creates or updates an entry in this table. Thus the merge process consists of: 1) updating (or creating) the appropriate location cluster composite, and 2) merging the updated location cluster into th site composite, if possible.

This table also includes SRR data resulting from Geosort, which is used to route Alert messages. Before ambiguity i resolved, message routing based on beacon position is controlled via the Pass Location Cluster. After ambiguity is resolved, continued message transmission is based on the first (received) Pass Location Cluster used to resolve ambiguity.

For encoded positions (Sat="E0 "), only the A side values (eg., A_Lat) are set. For Doppler positions, the A and B side values are set from the first Doppler solution in the cluster.

406 MHz Alert Site Data Structure, Pass Location Cluster Composite Table "AlertSite406Cluster"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1.1	4	int	Site Number: unique Id of Alert Site <FK=AlertSite406Sum>
AlertSiteNum5	2	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
PassNum	1.2	2	smallint	Site pass (virtual event) number
ClustId	1.3	2	smallint	Location cluster Id within Site pass (virtual event)
RptPassNum		2	smallint	Site reporting pass (event) number. For encoded pass (SAT="E0 "), is first reporting pass received
BcnId15	3	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
RealSide		1	char	Cluster A/B real side flag (A, B or N) (SQL Default is 'N')
FirstEntryTime		8	datetime	Time first solution entered for Cluster

406 MHz Alert Site Data Structure, Pass Location Cluster Composite Table “AlertSite406Cluster”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LastEntryTime		8	datetime	Time last solution entered for Cluster
NumComp		2	smallint	Number of Cluster composite computations (SQL Default is 0)
Sat		3	char	Satellite Identifier (“E0 “ means encoded position)
Orbit		4	int	Orbit number (for encoded position, set from first reporting pass). Set to 0 for MCC data: temp
ASiteSolId1		2	smallint	Solution Id within Alert Site of first solution in cluster
NumSol		2	smallint	Number of solutions (elements) for cluster in solution table. (SQL Default is 0)
NumSolMsg		2	smallint	Number of solutions in location cluster resulting in output messages. (SQL Default is 0)
TcaFirst		8	datetime	Time of first (earliest) TCA or detect time
TcaLast		8	datetime	Time of last (latest) TCA or detect time
TcaWeight		4	real	Weight of Cluster Tca
HighProbSent		2	smallint	Highest (A) probability of any solution sent in cluster. Set to 0 for Encoded. (SQL Default is 0)
A_Srr		16	varchar Nullable	A Side (or encoded position) SRR table, for first solution in Cluster: 4 chars per SRR, as in GEOSORT.
B_Srr		16	varchar Nullable	B Side SRR table, for first solution in Cluster : 4 chars per SRR, as in GEOSORT
A_Tca		8	datetime	TCA of A side (or detect time)
A_Lat		4	real	Latitude of A (or encoded) position
A_Lon		4	real	Longitude of A (or encoded) position

406 MHz Alert Site Data Structure, Pass Location Cluster Composite Table "AlertSite406Cluster"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_LatDev		4	real Nullable	A (or encoded position) Standard deviation of Latitude
A_LonDev		4	real Nullable	A (or encoded position) Standard deviation of Longitude
A_Corr		4	real Nullable	A (or encoded position) Latitude/longitude correlation
A_FreqBias		4	real Nullable	A Frequency bias [-25.0, +25.0]
A_FBiasDev		4	real Nullable	A Standard Deviation frequency bias [0.0, 900.0]
A_LocWeight		4	real Nullable	A location weight
B_Tca		8	datetime Nullable	TCA of B side
B_Lat		4	real Nullable	Latitude of B position
B_Lon		4	real Nullable	Longitude of B position
B_Corr		4	real Nullable	B Latitude/longitude correlation
B_LatDev		4	real Nullable	B Latitude standard deviation
B_LonDev		4	real Nullable	B Longitude standard deviation
B_FreqBias		4	real Nullable	B frequency bias [-25.0, +25.0]
B_FBiasDev		4	real Nullable	B standard Deviation frequency bias [0.0, 900.0]
B_LocWeight		4	real Nullable	B location weight

406 MHz Alert Site Data Structure, Pass Location Cluster Composite Table "AlertSite406Cluster"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_NumPrimarySrr		1	tinyint	Number of primary SRRs in A Side (or encoded position) SRR table, for first solution in Cluster. (SQL Default is 0)
B_NumPrimarySrr		1	tinyint	Number of primary SRRs in B Side SRR table, for first solution in Cluster. (SQL Default is 0)

5.2.4 406 MHz Alert Site Data Structure, Solution Table

Note: If the Solution Table defines Columns for A and B sides for a field, but the received Doppler data format (eg., MCC) only contains one value for the A and B sides, then the one value is copied to the Columns for the A and B sides.

406 MHz Alert Site Data Structure, Solution Table "AlertSite406Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum 1.1, 2.1, 3.1, 4.1	1.1, 2.1, 3.1, 4.1	4	int	Site Number: unique Id of Alert Site <FK=AlertSite406Sum>
AlertSiteNum5	5	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
AlertSiteSolId	1.2	2	smallint	Solution Id within Alert Site
RptPassNum	2.2	2	smallint	Reporting pass number in Alert Site
PasSolId	2.3	2	smallint	Solution Id within reporting Pass in Alert Site
RedunSolId		2	smallint Nullable	Solution Id within Pass for which this doppler solution is redundant.
PassNum	3.2	2	smallint	Reporting (and Doppler) pass number in Pass Table
DopClustId	3.3	2	smallint	Cluster Id within Doppler (reporting) Pass in Alert Site. 0 = no Doppler location. (SQL Default is 0)
DopClustSolId	3.4	2	smallint	Solution Id within Cluster in Doppler (reporting) Pass in Alert Site. 0 = no Doppler location. (SQL Default is 0)
EncPassNum	4.2	2	smallint	Encoded pass number in Pass Table (SQL Default is 0)
EncClustId	4.3	2	smallint	Cluster Id within Encoded Pass in Alert Site. 0 = no Encoded location. (SQL Default is 0)
EncClustSolId	4.4	2	smallint	Solution Id within Cluster in Encoded Pass in Alert Site. 0 = no Encoded location. (SQL Default is 0)

406 MHz Alert Site Data Structure, Solution Table "AlertSite406Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
BcnId15	6	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
BcnId30		30	char	406 Beacon Id code (bits 25-144), hexadecimal character
InSolId	7:ix	4	int	Solution Id in Input Table
CompLat		4	real Nullable	Site Composite latitude (range ± 00.000 to ± 89.999), + is north (RCC, SPOC message)
CompLon		4	real Nullable	Site Composite longitude (range ± 000.000 to ± 179.999), + is east (RCC, SPOC message)
ASiteDuration		4	real	Alert Site Duration in hours (RCC message)
NumRptPas		2	smallint	Number of reported Passes in Alert Site (RCC, SPOC message)
SitFunc		2	smallint	Sit Number [100-199] or U.S. Lut function code [1-9].
ValidCode		(1)	bit	Validation Code(s) exist for solution in Validation Results Table (SQL Default is 0)
FilterCode		(1)	bit	Filter Code(s) exist for solution in Filtering Results Table (SQL Default is 0)
AAPassMatch		(1)	bit	A side of solution matches Pass Composite Cluster A side (SQL Default is 1)
GenTime		8	datetime	Time solution generated at U.S. Lut or sent by reporting MCC
RcvTime		8	datetime	Time solution received at USMCC
AddTime		8	datetime	Time solution added to Alert Site
SourceId		2	smallint	Identification code of MCC/LUT that originally provided the solution

406 MHz Alert Site Data Structure, Solution Table "AlertSite406Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SourceName		6	char	Name of source of solution (eg., AK1, AUMCC1)
SourceMccName		16	varchar Nullable	Name of MCC responsible for LUT, per DDP. Derived from field MccComSiteName in table LutCfg. Is "USMCC" for U.S. Lut data.
ReportMccName		16	varchar	Name of MCC reporting data to USMCC. For MCC data, is derived from field ComSiteName in table InputMessage. Is "USMCC" for U.S. Lut data..
SourceMsgNum		4	int	US LUT or MCC message number. Derived from LutSolId for U.S. Lut, from CurMsgNum for MCC data.
Sat		3	char	Satellite Identifier (Note: implemented as varchar 4, which caused Procedure using char 3 sporadic problems. TG 3/5/99)
Orbit		4	int	Orbit number. Set to 0 for MCC data: temp.
SolReal		1	char	New solution A/B Real flag: 'A' = A side is real 'B'= B side is real 'N'= neither A or B is real, 'U'=Unknown if A or B is real, ' ' = A,B solution data not present (SQL Default is ' ')
EncReal		1	char	Encoded is Real flag: 'Y' = Yes, encoded solution is real 'N'= No: encoded is not real, 'U'=Unknown if encoded is real, ' ' = Encoded is not present (SQL Default is ' ')

406 MHz Alert Site Data Structure, Solution Table "AlertSite406Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Disp		1	char	Disposition of alert: S= Suppressed from Merge P= Processed in Merge, no message M= Processed in Merge, message 'U'= Unknown (SQL Default = 'U')
DispRsnDop		1	char	Disposition reason/detail for Doppler solution: If Suppressed: B BCH Error F Filtered data I Beacon Id Error :non BCH L Late data (added after Site closed) N No Doppler data O Old data R Redundant data T Time Tag/Clock Rollover Error If Processed, with no message: F Filtered data P Poorer Quality, per same pass Position Conflict logic R Redundant data U Beacon Unregistered If Processed, with output message: F First Alert (Located or not) A Updated First Alert (better A/B) B Blown, pre composite C Blown, post composite R First Resolved Alert U Updated Resolved Alert N New Detection 9 Registration Info: Sit 925 (SQL Default = ' ')

406 MHz Alert Site Data Structure, Solution Table "AlertSite406Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
DispRsnEnc		1	char	Encoded Position Disposition: B Bad data, suppressed F Filtered data I Beacon Id Error (non BCH) L Late data (added after Site closed) N No Encoded data O Old data R Redundant, suppressed U Used in merge (SQL Default = ‘ ’)
A_Prob		2	smallint	Probability that A solution is real [0, 100]. 0 means not set. (SQL Default is 0)
Power		2	smallint	Estimated power indicator in mw (range 1 to 9999, default is 0). Only set for MCC data. (SQL Default is 0)
Points		2	smallint	Number of points on Doppler curve
TmFirstPt		2	smallint Nullable	Time of first point from TCA in seconds (Set to 0 for MCC data: temp)
TmCurve		2	smallint Nullable	Number of seconds covered by curve (Set to -1 for MCC data: temp)
GlobalFlag		1	char	Local/Global flag. Local + (Default) Global -
TcaWindow		4	real Nullable	Calculated Window factor between -10 and 10 (-1.0 to +1.0 = TCA in Windows). Same as TcaWindowRcv for MCC data
TcaWindowRcv		1	tinyint	Received Window Factor (range 0 to 9) 0 TCA in Doppler curve 1->9 TCA not in Doppler curve (SQL Default is 0)
A_Lat		4	real Nullable	Latitude location of A solution

406 MHz Alert Site Data Structure, Solution Table "AlertSite406Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_Lon		4	real Nullable	Longitude location of A solution
A_Tca		8	datetime	Time of Closest Approach for A curve (or Detect time).
A_Cta		4	real Nullable	Cross track angle for A curve
A_LatDev		4	real Nullable	A Standard Deviation of latitude
A_LonDev		4	real Nullable	A Standard Deviation of longitude
A_Corr		4	real Nullable	A Latitude/longitude correlation
A_FreqBias		4	real Nullable	A Frequency bias, Hz [-25.0 , +25.0] (Set on Sits 122-124)
A_FBiasDev		4	real Nullable	A Frequency bias standard deviation, [0.0, 90.0] (Set on Sits 122-124)
A_FreqDrift		4	real Nullable	A Frequency bias drift in Hz/min (Set on Sits 122-124)
A_Noise		4	real Nullable	A Measurement noise or data residual standard deviation in Hz [0.0, 250.0]
A_Trend		4	real Nullable	A Trend factor, Hz
A_LocWeight		4	real Nullable	A location weight
A_NxtVisTm		8	datetime Nullable	Next time of visibility for A position (from reporting MCC only) For U.S. Lut data is "2000 Jan 1:00:00.000": temp
A_Srr1		4	char	Primary SRR of the A position, computed by the US MCC. (SQL Default is 0s)
A_Srr2		4	char	Secondary SRR of the A position, computed by the US MCC. (SQL Default is 0s)

406 MHz Alert Site Data Structure, Solution Table "AlertSite406Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
A_AbRcv		1	char	Ambiguity resolution flag received: + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (New Sits only, SQL Default is blank)
A_Heading		2	smallint Nullable	A Error Ellipse heading in degrees (range 0 to 359), computed if US LUT is source
A_Major		4	real Nullable	A Major axis in km (range 000.1 to 999.9), computed if US LUT is source
A_Minor		4	real Nullable	A Minor axis in km (range 000.1 to 999.9), computed if US LUT is source
A_Conf		1	tinyint	A Confidence factor computed by USMCC (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value (SQL Default is 0)
A_ConfRcv		1	tinyint	A Confidence factor received (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value (SQL Default is 0)
A_NumIter		1	tinyint	A Number of iterations (SQL Default is 0)
B_Lat		4	real Nullable	Latitude location of B solution

406 MHz Alert Site Data Structure, Solution Table “AlertSite406Sol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_Lon		4	real Nullable	Longitude location of B solution
B_Tca		8	datetime Nullable	Time of closest approach for B curve
B_Cta		4	real Nullable	Cross track angle for B curve
B_LatDev		4	real Nullable	B Standard Deviation of latitude
B_LonDev		4	real Nullable	B Standard Deviation of longitude
B_Corr		4	real Nullable	B Latitude/longitude correlation
B_FreqBias		4	real Nullable	B Frequency bias, Hz [-25.0 , +25.0]
B_FBiasDev		4	real Nullable	B Frequency bias standard deviation [0.0, 90.0]
B_FreqDrift		4	real Nullable	B Frequency bias drift in Hz/min
B_Noise		4	real Nullable	B Measurement noise or data residual standard deviation in Hz [0.0, 250.0]
B_Trend		4	real Nullable	B Trend in Hz
B_LocWeight		4	real Nullable	B location weight
B_NxtVisTm		8	datetime Nullable	Next time of visibility for B position (from reporting MCC only) For U.S. Lut data is “2000 Jan 1:00:00.000”: temp
B_Srr1		4	char	Primary SRR of the B position (computed by the US MCC). SQL Default is 0's.
B_Srr2		4	char	Secondary SRR of the B position, computed by the US MCC. (SQL Default is 0s)

406 MHz Alert Site Data Structure, Solution Table “AlertSite406Sol”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_AbRcv		1	char	Ambiguity resolution flag received + resolved position in solution - image position - in A and B means resolved position in encoded data + in A and B is default, no resolved position (New Sits only, SQL Default is blank)
B_Heading		2	smallint Nullable	B Error Ellipse heading in degrees (range 0 to 359), computed if US LUT is source
B_Major		4	real Nullable	B major axis in km (range 000.1 to 999.9), computed if US LUT is source
B_Minor		4	real Nullable	B minor axis in km (range 000.1 to 999.9), computed if US LUT is source
B_Conf		1	tinyint	B confidence factor computed by USMCC (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value (SQL Default is 0)
B_ConfRcv		1	tinyint	B confidence factor received (range 0 to 4) 4 within 5.0 NM 3 within 20.0 NM 2 within 50.0 NM 1 more than 50.0 NM 0 default value (SQL Default is 0)
B_NumIter		1	tinyint	B Number of iterations (SQL Default is 0)
EncLat		4	real Nullable	Encoded latitude (range ± 00.000 to ± 89.999), + is north.

406 MHz Alert Site Data Structure, Solution Table "AlertSite406Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
EncLon		4	real Nullable	Encoded longitude (range ± 000.000 to ± 179.999), + is east.
EncLocWeight		4	real Nullable	Encoded location weight
EncSrr1		4	char	Primary SRR of the Encoded position, computed by the US MCC. (SQL Default is 0s)
EncSrr2		4	char Nullable	Secondary SRR of the Encoded position, computed by the US MCC. (SQL Default is 0s)
EncRedunSolId		2	smallint Nullable	Solution Id within Pass for which this encoded solution is redundant.
PoorAccWarn		1	char Nullable	Poor Solution Accuracy warning flag, computed per SID field 61: 'Y' = solution accuracy is suspect, 'N' = solution accuracy is not suspect
PosResolution		1	char Nullable	Position resolution, derived from Beacon Decode. 'C'= Coarse, 'R'= Refined, 'N' = None. For Naval Submarine Program, Coarse means that only degrees of latitude and longitude are set, and Refined means the fraction of degrees is set (from 2nd Protected part of 30 Hex Beacon Id)

406 MHz Alert Site Data Structure, Solution Table "AlertSite406Sol"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
TimeForBcnLoc		4	int Nullable	Time after Beacon Actuation until an encoded Beacon position is set, derived from Beacon Decode. Units varies per type of Beacon, with the default as minutes. -1 means that the value is not available. For Naval Submarine Program, this field is "Minutes until GPS location is determined". If beacon decode value is 1023, then the value is not available, and "TimeForBcnLoc"= -1.
TimeBcnActive		4	int Nullable	Time the Beacon has been active, derived from Beacon Decode. Units varies per type of Beacon, with the default as minutes. For Naval Submarine Program, this field is "Hours Active".
FreqFlag		1	char Nullable	Frequency flag 4 406 PDS 5 406 LEO/GEO with SARP 6 406 LEO/GEO with SARR 7 406 LEO/GEO with SARP & SARR 8 406 G-SARP (SARR) 9 406 PDS/G-SARP (SQL Default is '4')

5.2.5 406 MHz Alert Site Data Structure, SRR Table

406 MHz Alert Site Data Structure, SRR Table "AlertSite406SRR"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1.1, 2:ix Foreign	4	int	Site Number: Unique Id of Alert Site <FK=AlertSite406Sum>
AlertSiteNum5	3	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
Srr	1.2	4	char	Search and Rescue Region Id
BcnId15	4	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
SendMsgLevel		1	tinyint	Send output message level: 0 Suppress all messages 1 Send until ambiguity resolved (MCC default) 2 Send all messages unless resolved position not in SRR, i.e., send continued composites. (RCC, SPOC default) 3 Send all messages regardless of ambiguity resolution Note that the SendMsgLevel is usually set to 1 or 2 in this table; a value of 0 or 3 is set by the Operator as needed.
SendCompLimit		2	smallint	Maximum number of Composite passes to send (applies if SendMsgLevel = 2: -1 No limit > -1 Maximum number (SQL default = -1)
SentMsg		(1)	bit	A message was sent to SRR . Is used to determine "Previous Srr List". (SQL Default is 0)
SentUnloc		(1)	bit	Unlocated Alert sent to SRR (SQL Default is 0)

406 MHz Alert Site Data Structure, SRR Table ”AlertSite406SRR”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SentRegMsg		(1)	bit	Registration data Message (eg., Sit 925) sent to SRR (SQL Default is 0)
Location		(1)	bit	Location in SRR (SQL Default is 1)
PrimarySrr		(1)	bit	This is a primary SRR . Before ambiguity is resolved, is set on if SRR is primary for any location. If Site Composite in SRR, flag is reset based on Cluster location of Composite. This flag always is 1 for a SRR added due to Exception Processing. (SQL Default is 1)
Comp		(1)	bit	Site Composite in SRR (SQL Default is 0)
IHRptSent		(1)	bit	Incident history Feedback report sent to SRR (SQL Default is 0)
AddTime		8	datetime	Time record added
LastUpdTime		8	datetime	Time record last updated

5.2.6 406 MHz Alert Site Data Structure, Missed Pass Table

406 MHz Alert Site Data Structure, Missed Pass Table ”AlertSite406MissedPass”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1.1	4	int	Site Number: Unique Id of Alert Site <FK=AlertSite406Sum>
AlertSiteNum5	2	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
ASiteMisPasId	1.2	2	smallint	Identifier of missed pass within Alert Site
BcnId15	3	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
Sol		1	char	Solution type: A A side B B side E Encoded C Composite
Lut		3	char	Lut that missed pass
Sat		3	char	Satellite of missed pass
Orbit		4	int	Orbit number of missed pass
BcnTca		8	datetime	Beacon TCA of missed pass
LutLos		8	datetime	Lut LOS of missed pass
Lat		4	real	Latitude of missed detection
Lon		4	real	Longitude of missed detection
NumMisPas		1	tinyint	Current number of missed passes for position (A, B or E side or composite), including the current missed pass.
AddTime		8	datetime	Time record added

5.2.7 406 MHz Alert Site Data Structure, Composite (Merge) History Table

This table contains a history of composites or merges within Alert Sites. It may contain Site composites, Pass composites, and Pass Location Cluster composites. (Whether this history is written is configurable.) Its main purpo is to record the values for intermediate merges, which would not otherwise be available in the Alert Site.

For a Site composite, the Pass Number (PassNum) is 0, the A side values are set for the Site composite and the B sid values are not set. The Pass composite is the same as the Pass Cluster composite that merged into the Site composit so a separate entry need not be written for the Pass composite. For an encoded Pass Cluster composite, the B side values are not set.

A pass in this table is a "virtual" pass, as described in section 5.2.2.

The solution data referred to in this table is the last input solution processed, that is, the solution that prompted the n merge.

406 MHz Alert Site Data Structure, Composite (Merge) History Table ”AlertSite406CompHistory”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1.1, 2.1	4	int	Site Number: unique Id of Alert Site <FK=AlertSite406Sum>
AlertSiteNum5	3	5	char	Site Identifier: the trailing five digits of the Site Number (AlertSiteNum), padded with leading zeroes.
PassNum	1.2	2	smallint	Site pass number. 0 means Site Composite.
AlertSiteSolId	2.2	2	smallint	Solution Id within Alert Site
ClustId	1.3	2	smallint	Location Cluster Id within Pass within Site
ClustSolId	1.4	2	smallint	Solution Id within Cluster within Pass within Site
BcnId15	3	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
InSolId	4	4	int	Solution Id in Input Table
SitFunc		2	smallint	Sit Number [100-199] or U.S. Lut function code [1-9].

406 MHz Alert Site Data Structure, Composite (Merge) History Table ”AlertSite406CompHistory”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AddTime		8	datetime	Time record added to Alert Site: merge calculation time
SourceName		6	char	Name of source of solution (eg., AK1, AUMCC1)
Sat		3	char	Satellite Identifier for solution
A_Tca		8	datetime	Time of Closest Approach for A (or Encoded or site composite) curve
A_Lat		4	real	Latitude location of A (or Encoded or site composite) solution
A_Lon		4	real	Longitude location of A (or Encoded or site composite) solution
A_LatDev		4	real	A (or Encoded or site composite) Standard Deviation of latitude
A_LonDev		4	real	A (or Encoded or site composite) Standard Deviation of longitude
A_Corr		4	real	A (or Encoded or site composite) latitude/longitude correlation
A_FreqBias		4	real	A (or Encoded or site composite) frequency bias, Hz [-25.0 , +25.0]
A_FBiasDev		4	real	A (or Encoded or site composite) frequency bias standard deviation, [0.0, 90.0]
A_LocWeight		4	real	A location weight
B_Tca		8	datetime Nullable	Time of closest approach for B curve
B_Lat		4	real Nullable	Latitude location of B solution
B_Lon		4	real Nullable	Longitude location of B solution

406 MHz Alert Site Data Structure, Composite (Merge) History Table ”AlertSite406CompHistory”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
B_LatDev		4	real Nullable	B Standard Deviation of latitude
B_LonDev		4	real Nullable	B Standard Deviation of longitude
B_Corr		4	real Nullable	B latitude/longitude correlation
B_FreqBias		4	real Nullable	B frequency bias, Hz [-25.0 , +25.0]
B_FBiasDev		4	real Nullable	B frequency bias standard deviation, [0.0, 90.0]
B_LocWeight		4	real Nullable	B location weight

5.4 121, 243 MHz and 406 Interferer Alert Validation Result Table

This table is contains the results of 121 MHz, 243 MHz and 406 Interferer input solution data that have failed validation. (It is configurable whether invalid data is written to this table.) This table provides a link to the Validati Configuration and the Input solution. It also provides a summary of 'special' actions taken, such as suppressing outp message formation or routing output messages to a special SRR.

121, 243 MHz and 406 Interferer Alert Validation Result Table "Alert123ValidationResult"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ResultId	1	4	int Identity	Validation result Identifier
ValidationId	2 ~~Foreign~~	24	varchar	Identifier for Validation condition ~~<FK=Alert123ValidationCfg>~~
InSolId	3	4	int	Input solution Id
Sol		1	char	Solution side: 'A' = A side 'B' = B side ' ' = Not applicable (SQL Default is ' ')
AddTime		8	datetime	Time record added
MoreChecksOk		(1)	bit	If invalid, Ok to check more validation conditions: 1 = yes 0 = no
AlertSiteOk		(1)	bit	If invalid, Ok to put in Alert Site: 1 = yes 0 = no
ASiteMergeOk		(1)	bit	If invalid, Ok to merge into Alert Site composite(s): 1 = yes 0 = no
ASiteMsgOk		(1)	bit	If invalid, Ok to generate Alert Site output message: 1 = yes 0 = no

121, 243 MHz and 406 Interferer Alert Validation Result Table "Alert123ValidationResult"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SrrRouteType		1	char	If invalid, special SRR routing type: 'A'= Append to normal routing 'R'= Replace normal routing 'N'= Normal
SpecSrr		8	varchar Nullable	If special SRR routing is in effect, Special SRR table, 4 chars per SRR, as in Geosort

5.5 406 MHz Alert Validation Result Table

This table is contains the results of 406 MHz input solution data that have failed validation. (It is configurable wheth invalid data is written to this table.) This table provides a link to the Validation Configuration, the Input solution ar Alert Site solution. It also provides a summary of ‘special’ actions taken, such as suppressing output message format or routing output messages to a special SRR.

406 MHz Alert Validation Result Table “Alert406ValidationResult”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ResultId	1	4	int Identity	Validation result Identifier
ValidationId	2 ~~Foreign~~	24	varchar	Identifier for Validation condition <~~FK=Alert406ValidationCfg>~~
InSolId	3	4	int	Input solution Id
BcnId15	5	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
Sol		1	char	Solution side: ‘A’ = A side ‘B’ = B side ‘ ’ = Not applicable (SQL Default is ‘ ’)
AddTime		8	datetime	Time record added
MoreChecksOk		(1)	bit	If invalid, Ok to check more validation conditions: 1 = yes 0 = no
AlertSiteOk		(1)	bit	If invalid, Ok to put in Alert Site: 1 = yes 0 = no
ASiteMergeOk		(1)	bit	If invalid, Ok to merge into Alert Site composite(s): 1 = yes 0 = no

406 MHz Alert Validation Result Table "Alert406ValidationResult"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ASiteMsgOk		(1)	bit	If invalid, Ok to generate Alert Site output message: 1 = yes 0 = no
SrrRouteType		1	char	If invalid, special SRR routing type: 'A' Append to normal routing 'R' Replace normal routing 'N ' Normal
SpecSrr		8	varchar Nullable	If special SRR routing is in effect, Special SRR table, 4 chars per SRR, as in Geosort

5.6 121, 243, 406 MHz and 406 Interferer Alert Filtering Result Table

This table contains the results of input solution data that has been filtered. (It is configurable whether filtered data is written to this table.) This table provides a link to the Filtering Configuration and Input solution. It also provides a summary of ‘special’ actions taken, such as suppressing output message formation or routing output messages to a special SRR.

121, 243, 406 MHz and 406 Interferer Alert Filtering Result Table “Alert124FilterResults”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ResultId	1	4	int Identity	Filtering result Identifier
FilterId	2 ~~Foreign~~	24	varchar	Identifier for Filtering condition ~~<FK=Alert124FilterCfg>~~
InSolId	3	4	int	Input solution Id
BcnId15	5	15	char Nullable	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
Sol		1	char	Solution side: ‘A’ = A side ‘B’ = B side ‘ ’ = Not applicable (SQL Default is ‘ ’)
AddTime		8	datetime	Time record added
MoreChecksOk		(1)	bit	If filtered, Ok to check more filtering conditions: 1 = yes (SQL Default is 1) 0 = no
AlertSiteOk		(1)	bit	If filtered, Ok to put in Alert Site: 1 = yes 0 = no
ASiteMergeOk		(1)	bit	If filtered, Ok to merge into Alert Site composite(s): 1 = yes 0 = no

121, 243, 406 MHz and 406 Interferer Alert Filtering Result Table "Alert124FilterResults"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ASiteMsgOk		(1)	bit	If filtered, Ok to generate Alert Site output message: 1 = yes 0 = no
SrrRouteType		1	char	If filtered, special SRR routing type: 'A' Append to normal routing 'R' Replace normal routing 'N ' Normal
SpecSrr		8	varchar Nullable	If special SRR routing is in effect, Special SRR table, 4 chars per SRR, as in Geosort

5.7 121, 243, 406 MHz and 406 Interferer Alert Message Type Table

This table contains the results of Alert Match/Merge processing needed to perform Alert Message Routing and Formation. When an Alert Message Type is instigated by an input solution, the “AlertSiteSolId” is set and the “ASiteMisPasId” is not set. When an Alert Message Type is instigated by an occurrence other than an input solution (eg., 406 Mhz Beacon Registration data or a Missed Pass), the “AlertSiteSolId” is not set.

121, 243, 406 MHz and 406 Interferer Alert Message Type Table “AlertMessageType”

Field Name	Key	Bytes	Data Type	Description
AlertMsgId	1	4	int Identity	Alert Message Type Identifier
AlertSiteNum	2	4	int	Site Number: unique Id of Alert Site
AlertSiteSolId		2	smallint Nullable	Solution Id within Alert Site. Not set if missed pass output message or 406 Registration data input message
ASiteMisPasId		2	smallint Nullable	Identifier of missed pass within Alert Site, per Alert Site Missed Pass Table. Only set if missed pass output message.
InProcId	3:ix	4	int	Input Processing Unique Id
InMsgId		4	int	Input Message Id
MessageType		50	varchar	Type of output message to be generated.
MessageSubType		16	varchar	Message sub type. For solution data, corresponds to bytes 3-4 of ADIType: ADI MessageSubType ‘00' = None ‘01'= Encoded ’10'= Doppler ‘11'= Doppler-Encoded

121, 243, 406 MHz and 406 Interferer Alert Message Type Table “AlertMessageType”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ADIType		4	char	Alert Data Item type: byte 1: ‘0' = 121,243 MHz or Interferer ‘1'= 406 MHz byte 2: ‘0' = Geo satellite ‘1'= Leo satellite byte 3: ‘0' = no Doppler ‘1'= Doppler byte 4: ‘0' = no Encoded ‘1'= Encoded
TimeOfEntry		8	datetime	Time row entered to table
ProcDoneTime		8	datetime Nullable	Time message routing/formation finished processing row
BcnId15	3	15	char Nullable	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001

6 Configuration Data Structures

6.1 Configuration Change Log Table

Whenever a change is made to an MCC Database Configuration Table, the Operator Interface will write an entry to the Configuration Change Log Table, describing what was changed, who made the change and when the change was made.

Configuration Change Log Table ”ConfigChangeLog”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ChangeId	1	4	int Identity	Configuration Change Id
ChangeIdLnk	2	4	int	Configuration Change Id Link: the ChangeId of the first change in a group of related changes. 0 means that the change is not part of a group. (SQL Default is 0)
OprMsgId	3 Foreign?	4	int	Unique Id for associated Operator Message . (SQL Default is 0)
ChangeTime	4	8	datetime	Time of Configuration change
DBLevel		1	char	(Highest) Database level of the Configuration change: ‘D’ = Entire Database ‘T’ = Entire Table ‘R’ = Entire Row ‘F’ = Field within Row
ChangeType		1	char	Type of Configuration change: ‘A’ = add item ‘D’ = delete item ‘U’= update item ‘W’= update item, backward view* * When an update to a primary key is made, two rows are inserted in the Log, each with DBLevel=R and the same ChangeIdLnk. The first has a RowId = OldValue and ChangeType=U, and aids a forward search in the Log. The second has a RowId = NewValue and ChangeType=W, and aids a backward search in the Log.

Configuration Change Log Table "ConfigChangeLog"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
TempFlag		1	char	Configuration change is temporary flag: 'Y' = yes, expect change to be reversed 'N' = no, expect change to be permanent
TableName		32	varchar Nullable	Name of Configuration Table changed
RowId		255	varchar Nullable	Identifier (Primary Key) of Row in Configuration Table changed. If the primary key contains multiple rows, the field values are separated by commas. (Eg., "Field1,Field2").
FieldName		64	varchar Nullable	Name of Field in Configuration Table changed. If null, the change applies to the entire row.
OldValue		255	varchar Nullable	Old (previous) value of changed field
NewValue		255	varchar Nullable	New value of changed field
Program		16	varchar	Program name
UserId		16	varchar	User identifier
SubsysId		4	char	Subsystem Identifier of primary user of changed item: ALL All subsystems ALRT Alert Processing COM Communications CCVT Com Converter DBMN Database Maintenance OPER Operator Interface SMAP SAR Mapping SDAT System Data SMON System Monitoring TELM Telemetry (SQL Default is Blanks)

Configuration Change Log Table ”ConfigChangeLog”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
TrackingId		16	varchar Nullable	External tracking identifier (eg., Com Vendor ticket number)
Remarks		255	varchar	User remarks (eg., the reason that the change was made)

6.2 Communication Configuration Tables

6.2.1 Communication Configuration Table

The Communication Configuration Table is comprised of Configuration data that is applicable to all of the Communication Service Processes. Configuration defaults and override entries are maintained in this Table.

Communication Configuration Table "ComCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ComCfgKey	Pk	36	varchar	Communication Configuration Key for Default configuration or override configuration: "ComService", SiteName/PathName, etc.
X25AcceptTime		4	int nullable	Eicon Library function X.25 Accept Done timeout (milliseconds)
X25FlowCtlTime		4	int nullable	Eicon Library function X.25 Flow Control Done timeout (milliseconds)
X25GatewCallTime		4	int nullable	Eicon Library function X.25 Gateway Call Done timeout (milliseconds)
X25GatewListenTime		4	int nullable	Eicon Library function X.25 Gateway Listen Done timeout (milliseconds)
X25LinkStatsTime		4	int nullable	Eicon Library function X.25 Link Statistics Done timeout (milliseconds)
X25PacketStatsTime		4	int nullable	Eicon Library function X.25 Packet Statistics Done timeout (milliseconds)
X25PvcCallTime		4	int nullable	Eicon Library function X.25 Pvc Call Done timeout (milliseconds)
X25RecvTime		4	int nullable	Eicon Library function X.25 Receive Done timeout (milliseconds)
X25RegisterTime		4	int nullable	Eicon Library function X.25 Register Done timeout (milliseconds)
X25ResetTime		4	int nullable	Eicon Library function X.25 Reset Done timeout (milliseconds)
X25ResetConfirm Time		4	int nullable	Eicon Library function X.25 Reset Confirmation Done timeout (milliseconds)

Communication Configuration Table "ComCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
X25SendTime		4	int nullable	Eicon Library function X.25 Send Done timeout (milliseconds)
X25SendConfirm Time		4	int nullable	Eicon Library function X.25 Send Confirm Done timeout (milliseconds)
X25SendExpTime		4	int nullable	Eicon Library function X.25 Send Expedited Done timeout (milliseconds)
X25SendExpConfirm Time		4	int nullable	Eicon Library function X.25 Send Expedited Confirmation Done timeout (milliseconds)
X25StatusTime		4	int nullable	Eicon Library function X.25 Status Done timeout (milliseconds)
X25XCallTime		4	int nullable	Eicon Library function X.25 eXtended Call Done timeout (milliseconds)
X25XHangupTime		4	int nullable	Eicon Library function X.25 eXtended Hangup Done timeout (milliseconds)
X25XHangupConfirm Time		4	int nullable	Eicon Library function X.25 eXtended Hangup Confirmation Done timeout (milliseconds)
X25XListenTime		4	int nullable	Eicon Library function X.25 eXtended Listen Done timeout (milliseconds)
OutProcIdLastDone		4	int nullable	Output Process ID last done (Converter writes). Used for recovery.
UpdateTimeStamp		8	timestamp (binary 8)	SQL Server row update (activity sequence) ID.

6.2.2 Communication X.25 Gateway Port Configuration Table

The Communication X.25 Gateway Port Configuration Table is comprised of Configuration data that describes and controls the X.25 Gateways in all Communication PCs within the USMCC.

Communication X.25 Gateway Port Configuration Table "ComX25PortCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
X25Gateway ComputerName	Pka	16	varchar	X.25 Gateway Computer Name
X25GatewayName	Pkb	16	varchar	X.25 Gateway Eicon Lan Server Name
X25Gateway PortName	Pkc	16	varchar	X.25 Gateway Port Name
X25Gateway PortNum		2	smallint	X.25 Gateway Port Number
X25Gateway PortPriority		2	smallint	X.25 Gateway Port Priority
Online		1	boolean	X.25 Gateway is available for Operational system, (SQL default=1)
Test		1	boolean	X.25 Gateway is available for Test system, (SQL default=0)
CallInAllowed		1	boolean	X.25 Call In Allowed on this port
CallOutAllowed		1	boolean	X.25 Call Out Allowed on this Port
GetLinkStatsTime		4	int	Get Link Statistics for port Time interval (milliseconds) from midnight (on the hour = 60*60*1000), zero = do not get statistics
ResetLinkStatsCnt		2	smallint	Reset Link Statistics for port after specified number of Get Link Statistics, zero = do not reset statistics and one = reset statistics every time
GetPacketStatsTime		4	int	Get Packet Statistics for port Time interval (milliseconds) from midnight (on the hour = 60*60*1000), zero = do not get statistics

Communication X.25 Gateway Port Configuration Table "ComX25PortCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ResetPacketStatsCnt		2	smallint	Reset Packet Statistics for port after specified number of Get Packet Statistics, zero = do not reset statistics and one = reset statistics every time
UpdateTimeStamp		8	timestamp (binary 8)	SQL Server row update (activity sequence) ID.

6.2.3 Communication Site Configuration Table

The Communication Site Configuration Table is comprised of Configuration data that describes and controls each ar every site or remote location the Communication directly commuicates with.

Communication Site Configuration Table “ComSiteCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ComSiteName	Pk	16	varchar	Communication Site Name
ComSiteType		16	varchar	Communication Site Type: “LUT”, “MCC”, “RCC”, “SPOC”,”X400"?
ComSiteTypeId		4	int	Communication Site Type Identifier: LUT ID, etc.
Online		1	boolean	Site available for Online system, (SQL default=1)
Test		1	boolean	Site available for test system, (SQL default=0)
HoldInput		1	boolean	Hold all Input
HoldOutput		1	boolean	Hold all Output
ComSitePathName		16	varchar	Communication Site Path Name
ComSitePathType		32	varchar	Communication Path Type: Network (“Fts”, “Mci”, “Sarnet”, “Sprint”), Protocol (“X25”, “X32”, “X400”,”Fr”, “Tcp”, ”Ip”, “Smtp”, “Ex”, “DList”, “Fax”, “Hold”), Sub-Protocols (“Host”, “Pad”, “Pvc”, “Telex”, “Fax”), i.e. “FtsX25Host”, “MciX400Telex”, “FtsX400Fax”, “SarnetX25X32Host”, “SarnetExDList”, “SprintX25Pad”, “SprintX25Fr”, SarnetX25Ip”
PathTypeTableName		32	varchar	Communication Site Path Table (Type) Name: “ComX25PathCfg”, “ComEmailPathCfg”, “BitBucket”

Communication Site Configuration Table “ComSiteCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SarCodeUS		4	char nullable	Search And Rescue Code (3 Digit MID Code and 1 Alphanumeric country code) that identifies the U.S. when we send (or receive) a message. (SQL Default is ‘3660')
SarCode		4	char nullable	Search And Rescue Code (3 Digit MID Code and 1 Alphanumeric country code), internal to the USMCC
SarCodeExternal		4	char nullable	External Search And Rescue Code (3 Digit MID Code and 1 Alphanumeric country code), used for insertion in output and verification of input.
RecvLastTime		8	datetime Nullable	Last time message received (Converter writes)
RecvLastMsgNum		4	int	Receive Last Message Number (Converter writes)
SendLastMsgNum		4	int	Send Last Message Number (Converter writes)
OutProcIdLastDone		4	int	Output Process ID last done (Converter writes). Used for recovery.
AlertMsgFormat		16	varchar Nullable	Format (Type) of Alert Message to be sent, “RCC”, “MCCNew”, “MCCOld”, “CSEL”, “SPOC”
CheckInSeqNum		1	boolean	Check input message sequence number (SQL Default is 0)
RecvWaitSecs		4	int	Number of seconds to wait for next input message. For Lut, is seconds to wait for next block in a Pass or Pass Schedule. (SQL Default is 0)
RecvOld115		1	boolean	Receive SIT 115 in Old format
RecvOld125		1	boolean	Receive SIT 125 in Old format
RecvOld133		1	boolean	Receive SIT 133 in Old format

Communication Site Configuration Table "ComSiteCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Hold215In		1	boolean	Hold Input Sit 215 flag: .T.= Hold this Input from this ComSite (SQL Default = 1) .F.= No hold
Hold415In		1	boolean	Hold Input Sit 415 flag: .T.= Hold this Input from this ComSite (SQL Default = 1) .F.= No hold
SendSit215Cospas		1	boolean	Sit 215 (Cospas satellites Orbit Vector) flag: .T.= Send to this ComSite .F.= No send (SQL Default = 0)
SendSit215Sarsat		1	boolean	Sit 215 (Sarsat satellites Orbit Vector) flag: .T.= Send to this ComSite .F.= No send (SQL Default = 0)
SendSit415		1	boolean	Sit 415 (Time Calibration) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit416		1	boolean	Sit 416 (SARP Telemetry) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit425		1	boolean	Sit 425 (SARP Telemetry Out of Limits) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit435		1	boolean	Sit 435 (SARP Command Request) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit445		1	boolean	Sit 445 (SARP Command Verification) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)

Communication Site Configuration Table “ComSiteCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SendSit515		1	boolean	Sit 515 (SARR Telemetry) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit525		1	boolean	Sit 525 (SARR Telemetry Out of Limits) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit535		1	boolean	Sit 535 (SARR Command Request) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit545		1	boolean	Sit 545 (SARR Command Verification) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit605		1	boolean	Sit 605 (System Narrative) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0) Note: field not used, SarRoutingCfg is used to route SIT 605. 5/4/99
SendSit915		1	boolean	Sit 915 (Narrative) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit925		1	boolean	Sit 925 (Registration data) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendSit953		1	boolean	Sit 953 (Lut Pass Schedule) flag: .T.= Send this SIT to this ComSite .F.= No send (SQL Default = 0)
SendMinMsgNum		4	int	Send Minimum Message Number, (SQL default = 1)
SendMaxMsgNum		4	int	Send Maximum Message Number, (SQL default = 99,999)
RecvMinMsgNum		4	int	Receive Minimum Message Number, (SQL default = 1)

Communication Site Configuration Table "ComSiteCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecvMaxMsgNum		4	int	Receive Maximum Message Number, (SQL default = 99,999)
UpdateTimeStamp		8	timestamp (binary 8)	SQL Server row update (activity sequence) ID.

6.2.4 Communication Site Path Configuration

The Communication Path Configuration is comprised of Configuration data that describes and controls all of the allowable routes that data can be sent/received to/from remote destinations. This configuration is described in the following tables base on path type.

6.2.4.1 Communication Site X.25 Path Configuration Table

The Communication X.25 Path Configuration Table is comprised of X.25 specific Configuration data that describes and controls the X.25 send/receive data to/from remote destinations.

Communication Site X.25 Path Configuration Table “ComX25PathCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ComSiteName	Pka	16	varchar	Communication Site Name
ComSitePathName	Pkb	16	varchar	Communication Path Name
ComSitePathType		32	varchar	Communication Path Type: Network (“Fts”, “Mci”, “Sarnet”, “Sprint”), Protocol (“X25”, “X32”, “X400”,”Fr”, “Tcp”, ”Ip”, “Smtp”, “Ex”, “DList”, “Fax”, “Hold”), Sub-Protocols (“Host”, “Pad”, “Pvc”, “Telex”, “Fax”), i.e. “FtsX25Host”, “MciX400Telex”, “FtsX400Fax”, “SarnetX25X32Host”, “SarnetExDList”, “SprintX25Pad”, “SprintX25Fr”, SarnetX25Ip”
ComSitePathNum		2	smallint	Communication Site Path Number, Priority, and display order
Online		1	boolean	ComSitePath available for Online system, (SQL default=True)
Test		1	boolean	ComSitePath available for test system, (SQL default=False)
HoldInput		1	boolean	Hold all Input, (SQL Default = False)
HoldOutput		1	boolean	Hold all Output, (SQL Default = False)
SendQueName		32	varchar nullable	Communication Path Send Data Queue Name

Communication Site X.25 Path Configuration Table “ComX25PathCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LocalNtn		16	varchar nullable	X.25 Call Out Local system (USMCC) Network Terminal Number or Calling NTN.
RemoteNtn		16	varchar	X.25 Call Out Remote system Network Terminal Number or Called NTN.
Facility		96	varchar nullable	X.25 Call Out Facility Hex Data
ProtocolIdCud		132	varchar nullable	X.25 Call Out Protocol ID and Call User Data. This data usually identifies the Local system (USMcc). “0x” prefix specifies that Hex data follows, otherwise the data is ASCII, a comma separates each Hex or ASCII sequence.
VerifyLocalNtn		255	varchar nullable	X.25 Call In Verify Local system (USMcc) Network Terminal Number(s) (Called NTN(s)). “?” (question mark) indicates any digit is a match and “*” (asterisk) all remaining digits match. Multiple NTNs can be specified, separated by a semicolon. These value are used to listen for call ins. (Null if no call in allowed)
VerifyRemoteNtn		255	varchar nullable	X.25 Call In Remote system Network Terminal Number (Calling NTN). “?” (question mark) indicates any digit is a match and “*” (asterisk) all remaining digits match. Multiple NTNs can be specified when separated by semicolons. (Null if no Verification)
VerifyFacility		128	varchar nullable	X.25 Call In Facility Character Data, hex Data prefix: “0x” (Null if no Verification) (Not currently used)

Communication Site X.25 Path Configuration Table "ComX25PathCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
VerifyProtocolIdCud		255	varchar nullable	X.25 Call In Protocol ID and Call User Data values. This data usually identifies the Remote system."0x" prefix specifies that Hex data follows, otherwise the data is ASCII, a comma separates each Hex and ASCII sequence. "?" (question mark) indicates any byte value is a match and "*" (asterisk) all remaining bytes match. Multiple Protocol ID/CUDs can be specified when separated by semicolons. (Null if no Verification)
X25GatewayName		16	varchar nullable	X.25 Call Out Gateway Name. If null, the Online gateway(s) are used in priority order. Currently ignored.
X25Gateway PortNum		2	smallint nullable	X.25 Call Out Gateway Port Number for specified X25GatewayName. If omitted, all Online ports for specified gateway are used. Currently ignored.
CallInSendOk		1	boolean	Send allowed for Call In virtual circuits, True = Call In full duplex. If False, Queued data cannot be sent until Call In disconnects, (SQL Default = false)
CallOutRecvOk		1	boolean	Receive data expected for Call Out virtual circuits, True = Call Out full duplex, (SQL Default = true)
CallInBlock		1	boolean	Call In not accepted for ANY X.25 Path (including this one) while this Path is active, (SQL Default = True).
CallOutBlock		1	boolean	Call Out not allowed for ANY X.25 Path (including this one) while this Path is active, (SQL Default = True). Currently ignored, assumed to be True.
RecvOk		1	boolean	Receive allowed or expected, (SQL Default = True)
SendOk		1	boolean	Send is allowed, (SQL Default = True)

Communication Site X.25 Path Configuration Table "ComX25PathCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AckRespExp		1	boolean	Acknowledgment Response expected based on this path type. Specific message types may supercede this expectation. (SQL Default =False)
SendSubject		1	boolean	Insert Standard Message Subject Line, (SQL Default = false)
CallInIdleDisc		1	boolean	Idle Disconnect Call In virtual circuits when no data sent or received as configured by timers If False, virtual circuit will not be cleared except by remote DTE or by Operator command, (SQL Default = True)
CallOutIdleDisc		1	boolean	Idle Disconnect Call Out virtual circuits when no data sent or received as configured by timers. If False, virtual circuit will not be cleared except by remote DTE or Operator command, (SQL Default = True)
InvToClearDisc		1	boolean	Send an Invitation-To-Clear to initiate a Disconnect. Note, Com will always respond to a received Invitation-To-Clear, (SQL Default = False)
CallOutTryMax		4	int	X.25 Call Out Try Maximum count, Each subsequent attempt should use the next Operational X.25 Gateway and Port
CallOutTryTime		4	int	X.25 Call Out Try Time between tries (milliseconds)
MinConnTime		4	int	Minimum Connect Time for Idle disconnect (milliseconds)
ConnIntervalTime		4	int	Connect Interval Time for Idle disconnect (milliseconds) Idle disconnect should only occur after MinConnTime plus zero or more MinConnTime(s).

Communication Site X.25 Path Configuration Table “ComX25PathCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
CallInIdleDiscTime		4	int	Call In Idle Disconnect Time - No Input or Output data (milliseconds), (SQL Default = 900,000 or 15 minutes)
CallOutIdleDiscTime		4	int	Call Out Idle Disconnect Time - No Input or Output data (milliseconds), (SQL Default = 15,000 or 15 seconds).
IdleSendBitsPerSec		4	int	Idle Disconnect Send Bits Per Second - Send data byte count divided by this rate is used to adjust the Idle Disconnect time , (SQL Default = 9600).
MaxSendBytes		4	int	Maximum Send Data Byte Length, (SQL Default = 25,000)
MaxRecvBytes		4	int	Maximum Receive Data Byte Length, (SQL Default = 25,000)
SendLineMaxLen		2	smallint	Send Line Maximum Length, not including carriage control, (SQL Default = 69)
EndOfLineCarCntl		16	varchar nullable	Send End Of Line Carriage Control , value is Hex, (SQL Default = “0d0a”)
EndOfMsgCarCntl		16	varchar nullable	Send End Of Message Carriage Control, Should include End Of Line Carriage Control for last line in message., value is Hex, (SQL Default = “0d0a0c”)
RelayComSiteList		255	multi-varchar, nullable	Relay Received Data Communication Site Name/Path Name (Data received from ComSite is Relayed to the specified ComSite(s) as is) FUTURE
DupComSiteList		255	multi-varchar, nullable	Duplicate Send Data Communication Site Name/Path Name (Data sent to ComSite is Duplicated to the specified ComSite(s) as is) FUTURE
UpdateTimeStamp		8	timestamp (binary 8)	SQL Server row update (activity sequence) ID.

6.2.4.2 Communication Site Email Path Configuration Table

The Communication Email Path Configuration Table is comprised of X.400 (Telex and Fax) SMTP, Direct Fax, and Distibution List specific Configuration data that describes and controls the send/receive data to/from remote destinations.

Communication Site Email Path Configuration Table "ComEmailPathCfg"				
Field Name	**Key**	**Bytes**	**Type**	**Description**
ComSiteName	Pka	16	varchar	Communication Site Name
ComSitePathName	Pkb	16	varchar	Communication Path Name, use a name similar to the ComSitePathType
ComSitePathType		32	varchar	Communication Path Type: Network ("Fts", "Mci", "Sarnet", "Sprint"), Protocol ("X25", "X32", "X400","Fr", "Tcp", "Ip", "Smtp", "Ex", "DList", "Fax", "Hold"), Sub-Protocols ("Host", "Pad", "Pvc", "Telex", "Fax"), i.e. "FtsX25Host", "MciX400Telex", "FtsX400Fax", "SarnetX25X32Host", "SarnetExDList", "SprintX25Pad", "SprintX25Fr", SarnetX25Ip"
ComSitePathNum		2	smallint	Communication Site Path Number, Priority, and display order
Online		1	boolean	ComSitePath available for Online system, SQL default=True
Test		1	boolean	ComSitePath available for test system, SQL default=False
HoldInput		1	boolean	Hold all Input, (SQL Default = false)
HoldOutput		1	boolean	Hold all Output, (SQL Default = false)
SendQueName		32	varchar nullable	Communication Path Send Data Queue Name
FromEmailAdr		140	varchar nullable	From Email Address (Sender's Email address)
ReplyToEmailAdr		140	varchar nullable	Reply To Email Address

Communication Site Email Path Configuration Table "ComEmailPathCfg"				
Field Name	**Key**	**Bytes**	**Type**	**Description**
ToEmailAdr		255	varchar nullable	To Email Address
VerifyFromEmailAdr		255	varchar nullable	Verify From Email Address data
VerifyToEmailAdr		255	varchar nullable	Verify To Email Address data
VerifySubject		255	varchar nullable	Verify Email Subject data
VerifyMsgBody		255	varchar nullable	Verify Email Subject Body data
RecvOk		1	boolean	Receive allowed or expected, (SQL Default = true)
SendOk		1	boolean	Send is allowed, (SQL Default = true)
AckRespExp		1	boolean	Acknowledgment Response expected based on this path type. Specific message types may supercede this expectation. (SQL Default =True)
Importance		1	char	Importance: "H" = High, "N" = Normal, "L" = Low (SQL Default = "N")
Sensitivity		1	char	Sensitivity: "N" = Normal, "P" = Personal, "V" = Private, "C" = Confidential (SQL Default = "N")
ReadReceipt		1	boolean	Read Receipt Requested (SQL Default = false)
DeliveryReceipt		1	boolean	Delivery Receipt Requested (SQL Default = true)
SaveToSentItems		1	boolean	Read Receipt Requested (SQL Default = true)
SendRTF		1	boolean	Send Rich Text Fomat Message (SQL Default = false)

Communication Site Email Path Configuration Table "ComEmailPathCfg"				
Field Name	**Key**	**Bytes**	**Type**	**Description**
SendMsgAsBody		1	boolean	Send Message as Body (True) or Send Message as Attachment (False) (SQL Default = true)
SendSubject		1	boolean	Insert Standard Message Subject Line, (SQL Default = true)
MsgContentFormat		16	varchar	Message Content Format: "TEXT" = ASCII/IA5, "RTF" = Rich Text Format, (SQL Default = "TEXT")
MsgSendFormat		16	varchar	Send Message Encode Format, "MIME" = MIME, "UUENCODE" = UUENCODE, (SQL Default = "UUENCODE")
MaxSendBytes		4	int	Maximum Send Data Byte Length, (SQL Default = 25000)
MaxRecvBytes		4	int	Maximum Receive Data Byte Length, (SQL Default = 25000)
SendLineMaxLen		2	smallint	Send Line Maximum Length, not including carriage control, (SQL Default = 69)
EndOfLineCarCntl		16	varchar	Send End Of Line Carriage Control, value is Hex, (SQL Default = "0d0a")
EndOfMsgCarCntl		16	varchar	Send End Of Message Carriage Control, Should include End Of Line Carriage Control for last line in message, value is Hex, (SQL Default = "0d0a0c")
RelayComSiteList		96	multi-varchar, nullable	Relay Received Data Communication Site Name/Path Name (Data received from ComSite is Relayed to the specified ComSite(s) as is) FUTURE
DupComSiteList		96	multi-varchar, nullable	Duplicate Send Data Communication Site Name/Path Name (Data sent to ComSite is Duplicated to the specified ComSite(s) as is) FUTURE

Communication Site Email Path Configuration Table "ComEmailPathCfg"				
Field Name	**Key**	**Bytes**	**Type**	**Description**
UpdateTimeStamp		8	timestamp (binary 8)	SQL Server row update (activity sequence) ID.

6.2.5 Communication Queue Configuration Table

The Communication Queue Configuration Table is comprised of Configuration data that describes and controls all o the data and processing queues within the Communication Service.

Communication Queue Configuration Table "ComQueCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ComQueName	Pk	32	varchar	Communication Queue Name
ComQueType		16	varchar	Communication Queue Type, "NamedPipe", "ComQueClass"
ComSiteName		16	varchar nullable	Communication Site Name
ComSitePathName		16	varchar nullable	Communication Site Path Name
QuePriority		2	smallint	Queue Processing Priority?
QueMaxCoe		2	smallint	Queue Maximum Count of Entries
ProcessName		32	varchar	Take Process/Thread Name, "ComX25Output","ComEmailOutput", "CCvtInputConvert", "CcvtOutputDone" (TBD)
ProcessType		32	varchar	Communication Queue Process Type, "ComOutputReadyQ", "CCvtInputDoneQ", "CCvtOutputDoneQ"
UpdateTimeStamp		8	timestamp (binary 8)	SQL Server row update (activity sequence) ID.

6.3 Operator Configuration Tables

6.3.1 Operator Message Parameters Table

This table contains the parameters that govern the display and alarm settings for the Operator Messages issued by the MCC. It controls the mode in which messages of various priority are displayed to the MCC operator. The "operator priority" of a message determines whether it is treated as an alarm. A higher "operator priority" indicates that it is mo important for the operator view and respond to the message. The operator shall be able to set the minimum threshold at which messages are retrieved from the Operator Message Database Table and displayed to the operator. However only the System Administrator(s) shall be able to set the maximum threshold at which messages are retrieved from th Operator Message Database Table and displayed to the operator. Parameters for the Communications, LUT Monitoring, System, and Alert message subsystems are contained in this table.

A "flash"type message flashes but not make a sound on the Operator Display. An "audible" type message flashes an makes a sound on the Operator Display. An "audible" type message has a higher priority than a "flash" type messag

The following tables are designed to allow multiple users to access the Operator Message Log Display. The USMC operator (controller) is required to have this subsystem up. The following three tables are designed to control the use the Operator Message Log Display. There shall be a User named "Controller" and a User Group name "Controller". All controllers will be members of the "Controller" User Group. The values for 'LastMsgDsplyd', 'FirstFlshUnAck and 'FirstAudUnAck' will be updated for the user and the appropriate group for the user.

For any User, Subsystem combination (primary key is UserId, SubsysId) that is not defined in the Minimum or Maximum table, a default entry may be defined for User, SubsysId="Othr". If this default entry is not defined, a syst default of User="Default", SubsysId="Othr" shall be used.

Operator Interface Main Configuration Table “OperIntMainCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
UserId	1	16	varchar	User Id associated with log in to LAN
UserGroup		16	Varchar Nullable	User group to which UserId belongs
LastMsgDsplyd		4	int	Last message from Operator Message Log displayed to user.
FirstFlshUnAck		4	int	Action required by MCC controller. First ‘Flash’ message from Operator Message Log not acknowledged by user. When no messages are unacknowledged this field equals ‘LastMsgDsplyd’ + 1.
FirstAudUnAck		4	int	Immediate action required by MCC controller. First ‘Audible’ message from Operator Message Log not acknowledged by user. When no messages are unacknowledged this field equals ‘LastMsgDsplyd’ + 1.

6.3.2 Operator Interface Minimum Configuration Table

Operator Interface Minimum Configuration Table "OperIntMinCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
UserId	1.1 Foreign?	16	varchar	User Id associated with log in to LAN
SubsysId	1.2	4	char	Subsystem that wrote message to Operator message Log.
Display		1	tinyint	Last minimum 'OperPrior' priority set by user for displaying messages in 'Message Scroll' Window.
Flash		1	tinyint	Last minimum 'OperPrior' priority set by user for displaying messages in 'Message Alarm' Window as a 'Flash Message'.
Audible		1	tinyint	Last minimum 'OperPrior' priority set by user for displaying messages in 'Message Alarm' Window as an 'Audible Message'.

6.3.3 Operator Interface Maximum Configuration Table

Operator Interface Maximum Configuration Table "OperIntMaxCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
UserId	1.1 Foreign?	16	varchar	User Id associated with log in to LAN
SubsysId	1.2	4	char	Subsystem that wrote message to Operator message Log.
Display		1	tinyint	Maximum 'OperPrior' priority (set by management) that user can set for messages to be displayed.
Flash		1	tinyint	Maximum 'OperPrior' priority (set by management) that user can set for messages to be displayed as a Flash Message.
Audible		1	tinyint	Maximum 'OperPrior' priority (set by management) that user can set for messages to be displayed as an Audible Message.

6.4 Alert Configuration Tables

6.4.1 MID Information (Routing) Configuration Table

This table provides information about the Maritime Identification Digits or Country Identifier encoded in a 406 MHz Beacon Id. It is used to determine where Alert messages based on MID are to be routed. It is also used to determine Points of Contact for Registered 406 MHz Beacons, per Annex I of the Cospas-Sarsat Data Distribution Plan.

MID Information (Routing) Configuration Table "MidInfoCfg"				
Field Name	**Key**	**Bytes**	**Type**	**Description**
Mid	1	2	smallint	Maritime Identification Digits: Country identifier
CountryName		16	varchar Nullable	Country name
UnlocDestSarSiteName	2 Foreign?	16	varchar Nullable	Destination SRR for unlocated alerts with this Mid in Beacon Id
NocrSupportSarSiteName	3 Foreign?	16	varchar Nullable	Support SRR Site Name for NOCR alerts with this Mid in Beacon Id
Sit925DestSarSiteName	4 Foreign?	16	varchar Nullable	Destination SRR for Sit 925 messages with this Mid in Beacon Id
BcnRegPocName		48	varchar Nullable	Beacon Registration Point of Contact name (derived from Annex I, "Country or Territory Name". Set in SPOC Message Field 61, "REGISTRATION INFO AT")
BcnRegTelexCntryCd		4	varchar Nullable	Beacon Registration Point of Contact Telex number (derived from Annex I, "Telex".)
BcnRegTelexNum		16	varchar Nullable	Beacon Registration Point of Contact Telex number (derived from Annex I, "Telex". Set in SPOC Message Field 61, "TELEX")
BcnRegTelexAnswerBk		16	varchar Nullable	Beacon Registration Point of Contact Telex Answer Back code (derived from Annex I, "Telex". Set in SPOC Message Field 61, "TELEX")

MID Information (Routing) Configuration Table "MidInfoCfg"				
Field Name	**Key**	**Bytes**	**Type**	**Description**
BcnRegFAX		16	varchar Nullable	Beacon Registration Point of Contact Facsimile number (derived from Annex I, "Facsimile ". Set in SPOC Message Field 61, "FACSIMILE")
BcnRegAFTN		16	varchar Nullable	Beacon Registration Point of Contact AFTN code (derived from Annex I, "AFTN". Set in SPOC Message Field 61, "AFTN")
BcnRegPhoneCntryCd		5	varchar Nullable	Beacon Registration Point of Contact Telephone Country Code (derived from Annex I, "Telephone". Set in SPOC Message Field 61, "TELEPHONE")
BcnRegPhoneNum		16	varchar Nullable	Beacon Registration Point of Contact Telephone Number (derived from Annex I, "Telephone". Set in SPOC Message Field 61, "TELEPHONE")
BcnRegMaintName		128	varchar Nullable	Name of organization that maintains Beacon Registrations. (Derived from Annex I, "Maintained By")
BcnRegMaintAddress		128	varchar Nullable	Address of organization that maintains Beacon Registrations. (Derived from Annex I, "Maintained By")

6.4.2 SAR Routing Configuration Table

This table provides information about Search and Rescue Identifiers (or SARs), which are generated from a Geosort a beacon position or from Exceptions processing. (Technically, a Search and Rescue Region, or SRR, is a SAR returned by Geosort. However, in other tables in this document, the term SRR is used interchangeably with the term SAR.) Primarly, it is used to determine where Alert messages based on SAR are to be routed. It is also used to determine if Alert messages of a certain type (eg., 121 MHz First Alert) are to be sent at all.

When the Alert Process looks up a SAR (SarCode or SarSiteName) in this table, the result will be a list of SAR SiteNames to receive a particular alert. (The list may contain zero, one or many items.) Each Sar SiteName in this li must correspond to a ComSiteName in the "ComSiteCfg" Table, either directly or indirectly. The Alert Process will place an entry on the "OutputProcess" Table per destination SAR, setting the ComSiteName that corresponds to a destination SAR.

SAR Routing Configuration Table "SarRoutingCfg"

Field Name	Key	Bytes	Data Type	Description
SarCode	1	4	char	SAR Code (Identifier)
SarSiteName	2	16	varchar	Name of SAR Site (normallly matches a ComSiteName)
SarSiteType		16	varchar	SAR Site Type: "LUT", "MCC", "RCC", "SPOC","OTHER". For any Sar Site that is a Com Site (i.e., SarSiteName = OverrideSarSiteName), value must match ComSiteType of corresponding ComSiteName in ComSiteCfg table.
OverrideSarSiteName		16	varchar Nullable	SAR Site Name to which messages to SarCode or SarSiteName are to be redirected. If set = SarSiteName, the message is not redirected. (If null, no message is sent.) Note that echo Sar SiteNames only apply to the Primary SarCode or SarSiteName.
Echo1SarSiteName		16	varchar Nullable	First SAR Site Name to which messages for SarCode or SarSiteName are to be echoed. Note that echo SiteNames may be echoed again in the next SarSiteName link.

SAR Routing Configuration Table “SarRoutingCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Echo2SarSiteName		16	varchar Nullable	Second SAR Site Name to which messages for SarCode or SarSiteName are to be echoed
SendFirstAlert123		(1)	bit	Send 123 First Alert for SarCode: 1 Yes 0 No
SendMisPas123FAlt		(1)	bit	Send 123 First Alert Missed Pass Message for SarCode: 1 Yes 0 No
SendMisPas123Comp		(1)	bit	Send 123 Composite Missed Pass Message for SarCode: 1 Yes 0 No
SendMisPas406FAlt		(1)	bit	Send 406 First Alert Missed Pass Message for SarCode: 1 Yes 0 No
SendMisPas406Comp		(1)	bit	Send 406 Composite Missed Pass Message for SarCode: 1 Yes 0 No
SendFirstAlert406		(1)	bit	Send 406 First Alert (Pre-composite) for SarCode: 1 Yes 0 No
Send406Interferer		(1)	bit	Send 406 Interferer for SarCode: 1 Yes 0 No

SAR Routing Configuration Table "SarRoutingCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SendIfBuffer		(1)	bit	Send Alert if SRR only in Buffer Zone: 1 Yes 0 No Note: normally set to Yes for RCCs, No for SPOCs and MCCs. An entry will not be added to the Alert Site SRR table if the value is No.
SendMsgLevel		1	tinyint	Send output message level: 0 Suppress all messages 1 Send until ambiguity resolved (MCC default) 2 Send all messages unless resolved position not in SRR, i.e., send continued composites. (RCC, SPOC default) 3 Send all messages regardless of ambiguity resolution Note that the SendMsgLevel is usually set to 1 or 2 in this table; a value of 0 or 3 is set by the Operator in the Alert Site Summary table, as needed.
SendNumComp123		2	smallint	Number of 123 Composites to send for SarCode, only has meaning when SendMsgLevel = 2. -1 means no limit or Not Applicable. (SQL Default is -1)
SendNumComp406		2	smallint	Number of 406 Composites to send for SarCode, only has meaning when SendMsgLevel = 2. -1 means no limit or Not Applicable. (SQL Default is -1)
Nodal		(1)	bit	Sar code is a Nodal Mcc: 1 Yes 0 No (SQL Default is 0)

6.4.3 MCC (DDP) Alert Message Routing Configuration Table

This table describes the route by which one MCC distributes Alert data to another MCC, as outlined in Annex G of t Cospas/Sarsat Data Distribution Plan. The Alert Process uses this table to filter (suppress) sending alerts to a seconc MCC if the MCC sending the alert to the USMCC does not use the USMCC to distribute the alert to the second MCC. The Alert Process may also use this table to determine where to route Alert messages destined for another MCC.

MCC Alert Message Routing Configuration Table "MccAlertRoutingCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SourceMccName	1.1	16	varchar	Name of source MCC sending alert (matches Com Site Name)
DestMccName	1.2	16	varchar	Name of destination MCC (matches Com Site Name), the final recipient of the alert
SupportMccName		16	varchar	Name of the support MCC (matches a Com Site Name). Is the MCC to which the SourceMccName sends the message.

6.4.4 MCC (DDP) NOCR Message Routing Configuration Table

This table describes the route by which one MCC distributes Notification of Country of Registration (NOCR) data to another MCC, as outlined in Annex 6 (?) of the Cospas/Sarsat Data Distribution Plan. The Alert Process uses this table to filter (suppress) sending NOCRs to a second MCC if the MCC sending the NOCR to the USMCC does not use the USMCC to distribute the NOCR to the second MCC. The Alert Process may also use this table to determine where to route NOCR messages destined for another MCC.

MCC NOCR Message Routing Configuration Table "MccNocrRoutingCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SourceMccName	1.1	16	varchar	Name of source MCC sending NOCR (matches a Com Site Name)
DestMccName	1.2	16	varchar	Name of destination MCC (matches a Com Site Name), the final recipient of the NOCR
SupportMccName		16	varchar	Name of the support MCC (matches a Com Site Name). Is the MCC that sends the message to DestMccName for SourceMccName

6.4.5 Alert Message Sit Output Configuration Table

This table defines the Sit Output Messages to be formed for a combination (i.e., primary key) of Alert Message State and Alert Message Format. The Alert Message State is a result of the Alert Match/Merge and Message Routing processing, and specifies a category of output message that is to be generated. For example, Alert Message State "FirstAlert123" means that a 121/243 MHz First Alert is to be generated. The Alert Message Format defines the message format to construct, such as "SPOC" or "RCC". The Alert Message Format is derived from field "AlertMsgFormat" in the "ComSiteCfg" Table for the ComSite that is to be sent the message.

The combination of Alert Message State and Alert Message Format results in a Sit Number and Sit Sub Type, which specifies the format of the output message. (This information is used by the Com process to convert the message to external format for transmission.) In addition, a flag indicates whether more than one solution can be sent in a single output message.

If a combination of Alert Message State and Alert Message Format is not found in the table, then no output message to be generated. This is equivalent to an entry in the table with SitNum = 0.

Note that the Alert Message State is used as the Output Message name in the "OutputMessage" Table.

Alert Output Message Sit Configuration Table "AlertOutputMessageSitCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertMsgState	1.1	24	varchar	Name of Alert Message State
AlertMsgFormat	1.2	16	varchar	Alert Message Format. Eg., "SPOC", "RCC", MCCNew", "MCCOld" or "CSEL"
SitNum		2	smallint	SIT Number for message. 0 means that no message is sent.
SitNumType		1	char	SIT number type: defines format within Sit number, where needed. See detailed description in table "SitHeaderOut" (SQL Default is Blank)
MultiSol		(1)	bit	Multiple solutions may be sent in one output message: 1 = yes 0 = no
IncRpt		(1)	bit	Incident Feedback report is required for this message: 1 = yes 0 = no

Alert Output Message Sit Configuration Table “AlertOutputMessageSitCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**

6.4.6 121/243, 406 Interferer, 406 MHz Alert Validation Configuration Tables

These tables are used to validate input solution data received from U.S. Luts and foreign MCCs. For a given validati condition, identified by field "ValidationId", the input value is compared against the "MinValue", "MaxValue" and "ValueList", as appropriate. If the input value fails a validation checks, then one or more special actions may be tak such as writing to the Operator Message Log or suppressing the solution from output message formation.

An input solution may fail more than one validation check. If so, any results associated with a given Alert Site processing condition (eg., AlertSiteOk) are combined by an "and" condition. That is, a "No" for a condition for any check results in "No" for that condition for the entire input solution.

121/243, 406 Interferer, 406 MHz Alert Validation Configuration Tables "Alert123ValidationCfg", "Alert406ValidationCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ValidationId	1	24	varchar	Identifier (name) for Validation condition
Used		(1)	bit	Validation condition is used: 1 = yes 0 = no
MinValue		16	varchar Nullable	Minimum valid value (as character). If null, then not used.
MaxValue		16	varchar Nullable	Maximum valid value (as character). If null, then not used.
ValueList		255	varchar Nullable	List of valid values (as character string, separated by commas). If null, then not used.
LogMsgNum		4	int	If invalid: Message Number assigned for Operator Message Log. 0 means no message. (SQL Default is 0)
LogResult		(1)	bit	If invalid, Log to Alert Results Table: 1 = yes (SQL Default is 1) 0 = no
MoreChecksOk		(1)	bit	If invalid, Ok to check more validation conditions: 1 = yes (SQL Default is 1) 0 = no

121/243, 406 Interferer, 406 MHz Alert Validation Configuration Tables "Alert123ValidationCfg", "Alert406ValidationCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteOk		(1)	bit	If invalid, Ok to put in Alert Site: 1 = yes (SQL Default is 1) 0 = no
ASiteMergeOk		(1)	bit	If invalid, Ok to merge into Alert Site composite(s): 1 = yes 0 = no (SQL Default is 0)
ASiteMsgOk		(1)	bit	If invalid, Ok to generate Alert Site output message: 1 = yes 0 = no (SQL Default is 0)
SrrRouteType	1	1	char	If invalid, special SRR routing type: 'A' Append to normal routing 'R' Replace normal routing 'N' Normal (SQL Default is 'N')
SpecSrr		8	varchar Nullable	If special SRR routing is in effect, Special SRR table, 4 chars per SRR, as in Geosort

6.4.7 121, 243, 406 MHz, 406 Interferer Alert Filtering Configuration Table

This table is used to filter input solution data. Filtering may be performed on different parameters, such as data sour and position. For a filtering condition to be met, all specified conditions must be met. If a filtering condition is met, or more ‘special’ actions may be taken, such as suppressing output message formation or routing output messages to special SRR. A filtering condition is identified by field “FilterId”.

121, 243, 406 MHz, 406 Interferer Alert Filtering Configuration Table “Alert124FilterCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
FilterId	1	24	varchar	Identifier (name) for Filtering condition
Used		(1)	bit	Filtering condition is used: 1 = yes 0 = no
MinLat		4	real Nullable	Minimum latitude
MaxLat		4	real Nullable	Maximum latitude
MinLon		4	real Nullable	Minimum longitude
MaxLon		4	real Nullable	Maximum longitude
Sat		3	char Nullable	Satellite Id
Lut		4	varchar Nullable	Lut Id. For U.S. Luts, the 3 digit name is used (eg. AK1). For foreign Luts, the 4 digit SID number is used; if the 4th digit is 0, all Luts for the MCC are included.
ReportMcc		4	varchar Nullable	Id code of MCC sending the current message: list provided in Annex B of SID. ‘3660' means all U.S. Luts
SitFunc		2	smallint Nullable	Sit Number [100-199] or U.S. Lut function code [1-9].

121, 243, 406 MHz, 406 Interferer Alert Filtering Configuration Table “Alert124FilterCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Global		1	char	406 Global Data flag: ‘Y’ = Global ‘N’ = Local ‘ ’ = not used (SQL Default is ‘ ’)
BcnId15		15	varchar Nullable	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
BcnType		1	char	Beacon Id filter type (USA Mid only): ‘L’= Location National, where bits 41- 50 define the user group ‘N’= National Use, where bits 40- 47 define the user group ‘S’= Serial User PLB, National, where bits 76-83 define the user group ‘ ’ = None (SQL Default is ‘ ’)
UserGroupValue		8	varchar Nullable	If BcnType used, value that identifies the user group. A prefix of “x” indicates that the item is hexadecimal; if the number of bits is not divisible by 4, then hex digits are formed from the left, so that the 1-3 bits on the right form the last digit. Eg., bits “1111,0110,11" would be encoded as “xF53”.
LogMsgNum		4	int	If filtered: Message Number assigned for Operator Message Log. 0 means no message. (SQL Default is 0)
LogResult		(1)	bit	If filtered, Log to Alert Results Table: 1 = yes (SQL Default is 1) 0 = no
MoreChecksOk		(1)	bit	If filtered, Ok to check more filtering conditions: 1 = yes (SQL Default is 1) 0 = no

121, 243, 406 MHz, 406 Interferer Alert Filtering Configuration Table "Alert124FilterCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteOk		(1)	bit	If filtered, Ok to put in Alert Site: 1 = yes (SQL Default is 1) 0 = no
ASiteMergeOk		(1)	bit	If filtered, Ok to merge into Alert Site composite(s): 1 = yes 0 = no (SQL Default is 0)
ASiteMsgOk		(1)	bit	If filtered, Ok to generate Alert Site output message: 1 = yes 0 = no (SQL Default is 0)
SrrRouteType	1	1	char	If filtered, special SRR routing type: 'A' Append to normal routing 'R' Replace normal routing 'N ' Normal (SQL Default is 'N ')
SpecSrr		8	varchar Nullable	If special SRR routing is in effect, Special SRR table, 4 chars per SRR, as in Geosort

6.4.8 Alert 406 MHz Beacon Sort Configuration Table

This table is used to sort (extract) 406 MHz input solution data to an separate file.

Currently, Orbitography and Test Beacon solution data are extracted into ASCII files. Data from these ASCII files are imported into the Lut Monitoring Database (LUTMONDB), the 406 Orbitography Beacon Database (ORBBCN) and the Test Beacon Database (TESTBCN). Data from these ASCII files is also incorporated in the Self-Analysis ar Monitoring System (SAMS).

A sort condition is identified by field "SortId". Note that an input solution, identified by the 15 Hex Beacon Id code (BcnId15), may be sorted to more than one file.

Alert 406 MHz Beacon Sort Configuration Table "Alert406BcnSortCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SortId	1	24	varchar	Identifier (name) for Sort condition
Used		(1)	bit	Sort condition is used: 1 = yes 0 = no
BcnId15		15	varchar	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
SortFileType		1	char	If filtered, special sort file type: 'O'= Orbitography file 'T'= Test Beacon file 'N '= None (SQL Default is 'N ')
ActLat		4	real Nullable	Actual (known) latitude
ActLon		4	real Nullable	Actual (known) longitude

6.5 SAR Mapping Configuration Tables

6.6 System Monitoring Configuration Tables

6.7 System Data Processing Configuration Tables

6.7.1 Satellite Configuration Databases

The tables in this section describe satellites, their orbits, their instrumentation and parameters used to monitor their health and safety. There is a table that stores the satellite identifiers and parameters and a series of tables that store telemetry parameters.

6.7.1.1 Satellite Configuration Table

This table contains information per satellite, such as various identifiers, orbital characteristics and operational status. table also stores telemetry information for the SARSAT satellites, such as table names and controls for out of limit a summary messages.

SatelliteConfiguration Table "SatCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Sat	1	3	char	USMCC satellite identifier, where the first digit defines the satellite type: 'S' SARSAT 'C' COSPAS 'G' GOES 'I' INSAT The last two digits contain the number within satellite type. If the number is < 10, the second digit is blank; eg., "G9".
SatIdSID		3	char	Cospas-Sarsat numeric satellite identifier as defined in the SID. Stored in a character format. SARSAT satellites ids range from 001 to 099, COSPAS from 101 to 199, GOES from 201 to 220, INSAT from 241 to 260
SatName		16	varchar	Common name of the satellite

SatelliteConfiguration Table "SatCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SatIdNOAA		2	char Nullable	NOAA's satellite identifier: NOAA-F NF NOAA-G NG NOAA-H NH NOAA-I NI NOAA-J NJ NOAA-K NK Is contained in the telemetry files from CEMSCS. Not set for Cospas satellites.
PreLaunchId		8	varchar Nullable	NOAA's pre-launch designator for the satellite, not applicable for non-USA satellites
PostLaunchId		8	varchar Nullable	NOAA's post-launch designator for the satellite, not applicable for non-USA satellites
SatIdNorad		6	varchar Nullable	NORAD's identifier for the satellite, applicable for all satellites. Normally a numeric but stored as a character field
SatOper		1	bit	The operational status of the satellite: 0 Not operational 1 Operational (SQL Default is 0)
Rptr121Oper		1	bit	The status of the 121.5 repeater on-board the satellite: 0 Not operational 1 Operational (SQL Default is 0)
Rptr243Oper		1	bit	The status of the 243 repeater on-board the satellite: 0 Not operational 1 Operational (SQL Default is 0)

SatelliteConfiguration Table "SatCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Rptr406Oper		1	bit	The status of the 406 repeater on-board the satellite (Interferer band): 0 Not operational 1 Operational (SQL Default is 0)
Local406Oper		1	bit	The status of the 406 SARP Local Mode on-board the satellite: 0 Not operational 1 Operational (SQL Default is 0)
Global 406Oper		1	bit	The status of the 406 SARP Global Mode on-board the satellite: 0 Not operational 1 Operational (SQL Default is 0)
Pseudo406Oper		1	bit	The status of the 406 SARP Pseudo Mode on-board the satellite: 0 Not operational 1 Operational (SQL Default is 0)
ProcOrbitVector		1	bit	Process (send) Orbit Vectors for satellite: 0 No 1 Yes
ProcPassSchedule		1	bit	Process Lut Pass Schedule for satellite: 0 No 1 Yes
Expect121		(1)	bit	It is expected that 121 Mhz Frequency will be processed ok by Satellite. Determines if Satellite is active for Next Pass/Missed Pass processing for this frequency. 0 = False (not Expected) 1 = True (Expected) (SQL Default is 0)

SatelliteConfiguration Table “SatCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Expect243		(1)	bit	It is expected that 243 Mhz Frequency data will be processed ok by Satellite. Determines if Satellite is active for Next Pass/Missed Pass processing for this frequency. 0 = False (not Expected) 1 = True (Expected) (SQL Default is 0)
Expect406		(1)	bit	It is expected that 406 Mhz Frequency data will be processed ok by Satellite. Determines if Satellite is active for Next Pass/Missed processing for this frequency. 0 = False (not Expected) 1 = True (Expected) (SQL Default is 0)
SpareBit		1	bit	Spare: 0 No 1 Yes
Inclination		4	real	Nominal inclination of the satellite in degrees [0.0 to ± 180.0]
Altitude		4	real	Average altitude of the satellite in kilometers [500.0 to 36,000]
OrbPeriod		4	real	The orbital period of the satellite in seconds [5000.0 to 87,000.0]
SemiMajorAxis		4	real	The semi-major axis of the satellite in km
UsoNomFreq		8	float	Ultra Stable Oscillator Frequency, nominal value in Hz
ClockBits		2	smallint	Number of Bits in on-board clock
ClockPeriod		8	float	Period between clock rollovers. (Approximate ambiguity of time-tagging)

SatelliteConfiguration Table "SatCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SARPAnalogCfgTbl		32	varchar Nullable	The table name where the associated SARP telemetry analog point configuration is stored. Only used for SARSAT satellite
SARRAnalogCfgTbl		32	varchar Nullable	The table name where the associated SARR telemetry analog point configuration is stored Only used for SARSAT satellite
SARPTelmSumMsg		(1)	bit	Generate SARP telemetry summary messages: 0 = No 1 = Yes (SQL Default is 0)
SARPTelmOutLmtMsg		(1)	bit	Generate SARP telemetry out of limts messages: 0 = No 1 = Yes (SQL Default is 0)
SARRTelmSumMsg		(1)	bit	Generate SARR telemetry summary messages: 0 = No 1 = Yes (SQL Default is 0)
SARRTelmOutLmtMsg		(1)	bit	Generate SARR telemetry out of limts messages: 0 = No 1 = Yes (SQL Default is 0)
SARPTelmAddTimeLastOutLmtMsg		8	datetime Nullable	Add time of last SARP telemetry out of limits message.
SARPTelmOutMsgIdLastOutLmtMsg		4	int	Output Message Id of last SARP telemetry out of limits message. (SQL Default is 0)
SARPTelmAddTimeLastSumMsg		8	datetime Nullable	Add time of last SARP telemetry out of limits message.

SatelliteConfiguration Table "SatCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SARPTelmOutMsgIdLastSumMsg		4	int	Output Message Id of last SARP telemetry summary message. (SQL Default is 0)
SARPTelmHiOrbitLastSumMsg		4	int	High orbit number on last SARP telemetry summary message. (SQL Default is 0)
SARRTelmAddTimeLastOutLmtMsg		8	datetime Nullable	Add time of last SARR telemetry out of limits message.
SARRTelmOutMsgIdLastOutLmtMsg		4	int	Output Message Id of last SARR telemetry out of limits message. (SQL Default is 0)
SARRTelmAddTimeLastSumMsg		8	datetime Nullable	Add time of last SARR telemetry out of limits message.
SARRTelmOutMsgIdLastSumMsg		4	int	Output Message Id of last SARR telemetry summary message. (SQL Default is 0)
SARRTelmHiOrbitLastSumMsg		4	int	Highest orbit number on last SARR telemetry summary message. (SQL Default is 0)
SARRTelmHiDataTmLastSumMsg		8	datetime Nullable	Highest data time on last SARR telemetry out of limits message.
TelmInMsgPointCfgTbl		32	varchar Nullable	Name of table that defines CEMSCS SARP and SARR Input Message Point configuration
SARPTelmReqTimeLastSumMsg		8	datetime Nullable	Request time of last SARP telemetry out of limits message.
TelmInDataLen		2	smallint	CEMSCS Input Data length: length extracted for a TIP Major Frame, including a 7 byte header (SQL Default is 174)
TimeTagDelta		4	real	Maximum difference in seconds used to check time tag error. (< 0 means no check is to be done). SQL Default is -1

SatelliteConfiguration Table "SatCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SARPDigitalCfgTbl		32	varchar Nullable	The table name where the associated SARP telemetry digital point configuration is stored. Only used for SARSAT satellite
SARRDigitalCfgTbl		32	varchar Nullable	The table name where the associated SARR telemetry digital point configuration is stored Only used for SARSAT satellite

6.7.1.1 Satellite Identifiers Table

This table contains information per satellites and their different identifiers. Not all the identifiers are necessarily use the USMCC software. This table also stores the table names for the telemetry tables associated with the SARSAT satellites.

Satellite Identifier Configuration Table "SatIdCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Sat	1	3	char	USMCC satellite identifier, where the first digit defines the satellite type: 'S' SARSAT 'C' COSPAS 'G' GOES 'I' INSAT The last two digits contain the number within satellite type. If the number is < 10, the second digit is blank; eg., "G9".
SatIdSID		3	char	Cospas-Sarsat numeric satellite identifier as defined in the SID. Stored in a character format. SARSAT satellites ids range from 001 to 099, COSPAS from 101 to 199, GOES from 201 to 220, INSAT from 241 to 260
SatName		16	varchar	Common name of the satellite
SatIdNOAA		2	char Nullable	NOAA's satellite identifier: NOAA-F NF NOAA-G NG NOAA-H NH NOAA-I NI NOAA-J NJ NOAA-K NK Is contained in the telemetry files from CEMSCS. Not set for Cospas satellites.
PreLaunchId		8	varchar Nullable	NOAA's pre-launch designator for the satellite, not applicable for non-USA satellites
PostLaunchId		8	varchar Nullable	NOAA's post-launch designator for the satellite, not applicable for non-USA satellites

Satellite Identifier Configuration Table "SatIdCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SatIdNorad		6	varchar Nullable	NORAD's identifier for the satellite, applicable for all satellites. Normally a numeric but stored as a character field
SatOper		1	bit	The operational status of the satellite: 0 Not operational 1 Operational
SARPTelmFile		32	varchar Nullable	The table name where the associated SARP telemetry points are stored
SARRTelmFile		32	varchar Nullable	The table name where the associated SARR telemetry points are stored

6.7.1.2 Satellite Parameters Table

This table contains a list of satellites and their orbital characteristics. Also included are flags to indicate which parts the search and rescue package is operational on board the different satellites.

Satellite Parameter Configuration Table “SatParmCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Sat	1	3	char	USMCC satellite identifier, where the first digit defines the satellite type: ‘S’ SARSAT ‘C’ COSPAS ‘G’ GOES ‘I’ INSAT The last two digits contain the number within satellite type. If the number is < 10, the second digit is blank; eg., “G9".
SatOper		1	bit	The operational status of the satellite. 0 Not operational 1 Operational
Rptr121Oper		1	bit	The status of the 121.5 repeater on-board the satellite: 0 Not operational 1 Operational
Rptr243Oper		1	bit	The status of the 243 repeater on-board the satellite: 0 Not operational 1 Operational
Rptr406Oper		1	bit	The status of the 406 repeater on-board the satellite (Interferer band): 0 Not operational 1 Operational
Local406Oper		1	bit	The status of the 406 SARP Local Mode on-board the satellite: 0 Not operational 1 Operational

Satellite Parameter Configuration Table “SatParmCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Global 406Oper		1	bit	The status of the 406 SARP Global Mode on-board the satellite: 0 Not operational 1 Operational
Pseudo406Oper		1	bit	The status of the 406 SARP Pseudo Mode on-board the satellite: 0 Not operational 1 Operational
Inclination		4	real	Nominal inclination of the satellite in degrees [0.0 to ± 180.0]. GEO stationary satellites have an inclination of -10 to +10, this fact is used to distinguish GEO satellites.
Altitude		4	real	Average altitude of the satellite in kilometers [500.0 to 36,000]
OrbPeriod		4	real	The orbital period of the satellite in seconds [5000.0 to 87,000.0]
SemiMajorAxis		4	real	The semi-major axis of the satellite in km
UsoNomFreq		8	float	Ultra Stable Oscillator Frequency, nominal value in Hz
ClockBits		2	smallint	Number of Bits in on-board clock
ClockPeriod		8	float	Period between clock rollovers. (Approximate ambiguity of time-tagging)

6.7.2 SARSAT Telemetry Tables

The USMCC database contains a table of general telemetry configuration values that are NOT specific to a type of instrument (SARP or SARR), a type of data (digital or analog) or a particular satellite, as listed in Section 6.7.2.1.

The USMCC database contains information about SARP and SARR telemetry analog Point identifiers, in Sections 6.7.2.2 and 6.7.2.3.

The USMCC database contains upper and lower limit telemetry values of critical parameters used in monitoring the health and safety of the Search and Rescue Processor (SARP) and the Search and Rescue Repeater (SARR) instruments on the NOAA SARSAT satellites, as in Sections 6.7.2.6 and 6.7.2.7. These limits are compared to SAR and SARR parameter values measured on the spacecraft and transmitted to ground stations and eventually to the USMCC. If the measured value exceeds limits in the USMCC databases, then an Out-Of-Limit message is generate and sent to the appropriate country (France for the SARP and Canada for the SARR). Telemetry data may also sent in summary messages to the appropriate country, regardless of whether Out of Limits conditions have been reached.

The measured values are transmitted from the satellite as a "raw count". This number is converted to a telemetry vo using a linear equation. Then, through the use of polynomial equations and coefficients, where a-e are the coefficien and V is the telemetry volt ($a+ bV + cV^2 + dV^3 + eV^4$), the telemetry volts are converted to engineering units (i.e., temperatures and volts).

Digital telemetry nominal values are provided in Sections 6.7.2.8 and 6.7.2.9.

6.7.2.1 SARSAT Telemetry General Configuration Table

The following table describes general telemetry configuration.

Sarsat Telemetry General Configuration Table "TelemetryCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
CfgKey	1	8	varchar	Configuration key. "Primary" identifies the record that is used operationally.
TimerSARPLutFunc		2	smallint	Lut Function that identifies the (monthly) SARP Telemetry Summary message timer in the "InputMessageLutCfg" table, which controls the generation of the InputMessage and InputProcess table entries. Normally = -12.
TimerSARRLutFunc		2	smallint	Lut Function that identifies the (daily) SARR Telemetry Summary message timer in the "InputMessageLutCfg" table, which controls the generation of the InputMessage and InputProcess table entries. Normally = -11.
NesdisLutFunc		2	smallint	Lut Function that identifies Telemetry data from Nesdis in the "InputMessageLutCfg" table, which controls the generation of the InputMessage and InputProcess table entries. Normally = -10.
InputDirectory		48	varchar	Name of the directory where the input Telemetry files are written by CEMSCS
InFileNamePattern		44	varchar	File Name pattern of the input Telemetry file written by Nesdis. Normally is "NSS.SARM.*"
ArchiveDirectory		48	varchar	Name of the directory where the Telemetry files is copied for processing and archiving.
TelemExecName		48	varchar	Name of the telemetry executable (.EXE) file and path name

Sarsat Telemetry General Configuration Table “TelemetryCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RunFileName		48	varchar	Name of the telemetry ASCII Configuration RUN file and path name. (Begins with prefix “FI==”)
MaxAgeHours		4	real	Maximum age (in hours) of data to process. Computed from end time of input dataset. 0.0 means ignore checking age. (SQL Default is 24.0)
SecsPerMajorFrame		4	real	Seconds in a Major Frame. (SQL Default is 32.0)
MinorInMajorFrame		2	smallint	Minor frames in a Major Frame. (SQL Default is 320)
SarpRawCntToTelmVolt		4	real	Factor to convert SARP Raw Count to Telemetry Volts. (SQL Default is 0.02)
SarrRawCntToTelmVolt		4	real	Factor to convert SARR Raw Count to Telemetry Volts. (SQL Default is 0.02)
SarpNum4AnalogAnomaly		1	tinyint	Number of consecutive SARP Analog values out of limit that constitutes an anomaly. (SQL Default is 5)
SarrNum4AnalogAnomaly		1	tinyint	Number of consecutive SARR Analog values out of limit that constitutes an anomaly. (SQL Default is 5)
SarpNum4DriftAnomaly		1	tinyint	Number of consecutive SARP Drift of Analog values out of limit that constitutes an anomaly. (SQL Default is 5)
SarpNum4StatChg		1	tinyint	Number of consecutive SARP status changes that constitutes a real status change. Normally set to 5
SarrNum4StatChg		1	tinyint	Number of consecutive SARR status (word) changes that constitutes a real status change. Normally set to 10
SarpSumMsgSitNum		2	smallint	Sit number for output SARP summary message (SQL Default = 416)

Sarsat Telemetry General Configuration Table "TelemetryCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SarpSumMsgName		24	varchar	Message name for output SARP summary message
SarpSumMsgSendFldName		24	varchar	Name of field in ComSiteCfg used to determine which Com Sites receive an output SARP summary message. (SQL Default is SendSit416)
SarpOutLmtSitNum		2	smallint	Sit number for output SARP out of limit message (SQL Default = 425)
SarpOutLmtMsgName		24	varchar	Message name for output SARP out of limits message
SarpOutLmtMsgSendFldName		24	varchar	Name of field in ComSiteCfg used to determine which Com Sites receive an output SARP summary message. (SQL Default is SendSit425)
SarrSumMsgSitNum		2	smallint	Sit number for output SARR summary message (SQL Default = 515)
SarrSumMsgName		24	varchar	Message name for output SARR summary message
SarrSumMsgSendFldName		24	varchar	Name of field in ComSiteCfg used to determine which Com Sites receive an output SARR summary message. (SQL Default is SendSit515)
SarrOutLmtSitNum		2	smallint	Sit number for output SARR out of limit message (SQL Default = 525)
SarrOutLmtMsgName		24	varchar	Message name for output SARR out of limits message
SarrOutLmtMsgSendFldName		24	varchar	Name of field in ComSiteCfg used to determine which Com Sites receive an output SARR summary message. (SQL Default is SendSit525)
SarpDayofMonth4SumMsg		2	smallint	Day of month when SARP monthly summary message produced.

Sarsat Telemetry General Configuration Table “TelemetryCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SarpHourOfDay4SumMsg		2	smallint	Hour of day when SARP monthly summary message produced.
SarrHourOfDay4SumMsg		2	smallint	Hour of day when SARR monthly summary message produced.
SarrMinOfHour4SumMsg		2	smallint	Minute of hour when SARR daily summary message produced.
SatCfgTblName		32	varchar	Satellite Configuration Table Name
SarpAnalogLogTbl		32	varchar	SARP telemetry analog point log Table Name
SarpDigitalLogTbl		32	varchar	SARP telemetry digital point log Table Name
SarrAnalogLogTbl		32	varchar	SARR telemetry analog point log Table Name
SarrDigitalLogTbl		32	varchar	SARR telemetry digital point log Table Name
SarpAnalogLogRate		2	smallint	Minimum rate (in seconds) to log all SARP telemetry analog points. 0 = do not log.
SarpDigitalLogRate		2	smallint	Minimum rate (in seconds) to log all SARP telemetry digital points. 0 = do not log.
SarrAnalogLogRate		2	smallint	Minimum rate (in seconds) to log all SARR telemetry analog points. 0 = do not log.
SarrDigitalLogRate		2	smallint	Minimum rate (in seconds) to log all SARR telemetry digital points. 0 = do not log.

Sarsat Telemetry General Configuration Table "TelemetryCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SarpAnalogOutLmtRate4Msg		4	real Nullable	Minimum rate of Out of limits for a SARP Analog parameter required for SARP Out of limits message. 0.0 means that any Anomaly requires an Out of Limits message. >1.0 means that no Out of Limits message is required for any Anomaly. (SQL Default is 0.5)
SarpDriftOutLmtRate4Msg		4	real Nullable	Minimum rate of Out of limits for a SARP Drift of Analog parameter required for SARP Out of limits message. 0.0 means that any Anomaly requires an Out of Limits message. >1.0 means that no Out of Limits message is required for any Anomaly. (SQL Default is 1.1)
SarrAnalogOutLmtRate4Msg		4	real Nullable	Minimum rate of Out of limits for a SARR Analog parameter required for SARR Out of limits message. 0.0 means that any Anomaly requires an Out of Limits message. >1.0 means that no Out of Limits message is required for any Anomaly. (SQL Default is 0.0)
SarpDriftInOutMsg		1	char Nullable	Drift reported in SARP Output message: 'Y' = Yes 'N' = No (SQL Default is 'N')

Sarsat Telemetry General Configuration Table "TelemetryCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
QualWdOkRate4PriMsg		4	real Nullable	Minimum rate of good quality words required for a second message to be the Primary message for a pass, when the second message has no SARR out of limits points and the previous message had SARR out of limits points. The rate of good quality words is defined as the Number of QualityWordsOk for the second message divided by the Number of QualityWordsOk for the previous message . (SQL Default is 1.0)
MinAgeHours		4	real Nullable	Minimum age (in hours) of data to process. Computed from end time of input dataset. 0.0 means ignore checking age. For example, -0.1 means that data more than 0.1 hours in the future will be skipped. (SQL Default is -0.1)
SarrSumMsgMaxOrbitDif		4	int Nullable	SARR Telemetry Daily Summary Message maximum orbit number difference from previous summary message. (SQL Default is 28)

6.7.2.2 SARSAT SARP Telemetry Analog Point Identifier Configuration Table

The following table describes SARP telemetry analog Point (parameter) identifiers. The primary identifier is PointIc which is used in various telemetry configuration and log tables.

Sarsat SARP Telemetry Analog Point Identifier Configuration Tables "TelemSARPAnalogPointIdCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PointId	1	16	varchar	The identifier for the telemetry point. Valid points for the SARP are: RUBoxTemp USOTemp USOReg RGReg SPUTemp PCUTemp CONTemp CON+05V CON-5.2V CON+12V CON-12V BUS+28V SatTemp
PointName		56	varchar	Name of the telemetry point (same for each satellite)
PointMsgName		12	varchar	Name of the telemetry point on output message. Does not include name of Engineering Units for point.
EngUnitsId		3	char	Engineering Units Identifier for point. If Engineering Units is reported on output message, appears on message. "C" = Degrees Centigrade, "V"= Volts, "DB"= Decibels
RptEngUnits		(1)	bit	Engineering Units is reported on output message: 1 = Yes 0 = No, report Telemetry Volts

Sarsat SARP Telemetry Analog Point Identifier Configuration Tables "TelemSARPAnalogPointIdCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgSeq		2	smallint	Sequence of field in output message. Lower number is placed in message first. If < 1, then the field is not placed on the output message.

6.7.2.3 SARSAT SARR Telemetry Analog Point Identifier Configuration Table

The following table describes SARR telemetry analog Point (parameter) identifiers. The primary identifier is PointI which is used in various telemetry configuration and log tables.

Sarsat SARR Telemetry Analog Point Identifier Configuration Tables "TelemSARRAnalogPointIdCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PointId	1	16	varchar	The identifier for the telemetry point. Valid points for the SARR are: TXPower TXCurrent TXTemp OSC121Temp OSC406Temp PTCTemp PTC+16V PTC+28V TXBplTemp AGC121 AGC243 AGC406
PointName		56	varchar	Name of the telemetry point (same for each satellite)
PointMsgName		12	varchar	Name of the telemetry point on output message. Does not include name of Engineering Units for point.
EngUnitsId		3	char	Engineering Units Identifier for point. If Engineering Units is reported on output message, appears on message. "C" = Degrees Centigrade, "V"= Volts, "DB"= Decibels
RptEngUnits		(1)	bit	Engineering Units is reported on output message: 1 = Yes 0 = No, report Telemetry Volts

Sarsat SARR Telemetry Analog Point Identifier Configuration Tables “TelemSARRAnalogPointIdCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OutMsgSeq		2	smallint	Sequence of field in output message. Lower number is placed in message first. If < 1, then the field is not placed on the output message.
ABSides		(1)	bit	Point has an A and a B Side: 1 = Yes 0 = No If ABSides is yes (i.e., PTC), then the Analog Raw Count is used to determine the active side (Raw Count of zero means inactive.)
DigitalPointId		16	varchar Nullable	Id of Digital Point associated with this point.

6.7.2.4 SARSAT SARP Telemetry Digital Point Identifier Configuration Table

The following table describes SARP telemetry digital Point (parameter) identifiers. The primary identifier is PointId which is used in various telemetry configuration and log tables.

Sarsat SARP Telemetry Digital Point Identifier Configuration Tables "TelemSARPDigitalPointIdCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PointId	1	16	varchar	The identifier for the telemetry point. Valid points for the SARR are: SarpRelayA SarpRelayB Dru1 Dru2 Dru3 RdMem RdOnce RdCont RdErase PseudoMode BandW1 BandW2 BandW3
PointName		56	varchar	Name of the telemetry point (same for each satellite)
PointMsgName		12	varchar	Name of the telemetry point on output message.
OutMsgSeq		2	smallint	Sequence of field in output message. Lower number is placed in message first. If < 1, then the field is not placed on the output message.

6.7.2.5 SARSAT SARR Telemetry Digital Point Identifier Configuration Table

The following table describes SARR telemetry digital Point (parameter) identifiers. The primary identifier is PointId which is used in various telemetry configuration and log tables.

Sarsat SARR Telemetry Digital Point Identifier Configuration Tables "TelemSARRDigitalPointIdCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PointId	1	16	varchar	The identifier for the telemetry point. Valid points for the SARR are: 121 243 406 TX PTC
PointName		56	varchar	Name of the telemetry point (same for each satellite)
PointMsgName		12	varchar	Name of the telemetry point on output message.
OutMsgSeq		2	smallint	Sequence of field in output message. Lower number is placed in message first. If < 1, then the field is not placed on the output message.
ABFromAnalog		(1)	bit	A or B side is determined from the analog data value. 0 No (from digital point) 1 Yes SQL Default is 0
PassSumFieldName		24	varchar	Name of field in "TelemetryPassSum" table for point

6.7.2.6 SARSAT SARP Telemetry Analog Point Configuration Tables

The SARP Telemetry analog point tables contain telemetry parameters, or points, that are monitored by the USMCC for each SARSAT satellite. The USMCC sends a monthly "snap shot" of the SARP as well as any out-of-limit messages. For each point, flags indicate if the point should be processed, generate out-of-limits messages or be included in summary messages. The minimum and maximum values for the A and B side are provided in telemetry v if OutLmtInEngUnits = 0; otherwise they are in engineering units. The rate of change is provided in telemetry volts.

Sarsat SARP Telemetry Analog Point Configuration Tables "TelemSARPS2AnalogCfg, TelemSARPS3AnalogCfg, TelemSARPS4AnalogCfg, TelemSARPS6AnalogCfg, TelemSARPS7AnalogCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PointId	1	16	varchar	The identifier for the telemetry point. Valid points for the SARP Analog are given in table "TelemSARPAnalogPointCfg"
PointName		56	varchar	Name of the telemetry point (same for each satellite)
PointActive		(1)	bit	Flag to indicate if the telemetry point is active for this satellite: 0 Not operational or not used 1 Operational
SendOutLimit		(1)	bit	Flag to indicate if data from this point should generate an out-of-limit message: 0 Do not send OOL messages 1 Send OOL Messages If "SendSumMsg" is on, then the point will be included in any out of limits message, but out of limits will not be flagged.
SendSumMsg		(1)	bit	Flag to indicate if data from this point is included in a summary message: 0 Not included in Summary message 1 Included in Summary Message

Sarsat SARP Telemetry Analog Point Configuration Tables "TelemSARPS2AnalogCfg, TelemSARPS3AnalogCfg, TelemSARPS4AnalogCfg, TelemSARPS6AnalogCfg, TelemSARPS7AnalogCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LogOutLmt		(1)	bit	Flag to indicate if Out of Limits values for this Analog point are logged, regardless of whether it is an Anomaly 0 Do not log out of limits 1 Log out of limits (SQL Default is 0)
LogAnomaly		(1)	bit	Flag to indicate if Anomalies for this Analog point are logged (that is, the last point that caused the Anomaly is logged). 0 Do not log Anomaly 1 Log Anomaly (SQL Default is 0)
LogDriftOutLmt		(1)	bit	Flag to indicate if Out of Limits values for Drift of this Analog point are logged, regardless of whether it is an Anomaly 0 Do not log out of limits 1 Log out of limits (SQL Default is 0)
LogDriftAnomaly		(1)	bit	Flag to indicate if Anomalies for Drift of this Analog point are logged (that is, the last point that caused the Anomaly is logged). 0 Do not log Anomaly 1 Log Anomaly (SQL Default is 0)
OutLmtInEngUnits		(1)	bit	Out of limit values are defined in Engineering Units, 0 = No 1 = Yes (SQL Default is 1)
LogRate		2	smallint	Minimum rate (in seconds) to log data for point. 0 = Do not log. (SQL Default is 0)

Sarsat SARP Telemetry Analog Point Configuration Tables “TelemSARPS2AnalogCfg, TelemSARPS3AnalogCfg, TelemSARPS4AnalogCfg, TelemSARPS6AnalogCfg, TelemSARPS7AnalogCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
WeightNewValue		4	real	Weight of new value versus previous filtering value in computing the new filtering value. Value is between 0.0 and 1.0, where the new weight plus the old weight equals 1. For example, 0.2 means that the new value weighs 0.2 vs. 0.8 for the previous values. (SQL Default is 0.2)
Coeff_a		4	real	Polynomial equation coefficient a used to convert telemetry volts to engineering units
Coeff_b		4	real	Polynomial equation coefficient b used to convert telemetry volts to engineering units
Coeff_c		4	real	Polynomial equation coefficient c used to convert telemetry volts to engineering units
Coeff_d		4	real	Polynomial equation coefficient d used to convert telemetry volts to engineering units
Coeff_e		4	real	Polynomial equation coefficient e used to convert telemetry volts to engineering units
MinValue		4	real	Minimum value for the telemetry point in telemetry volts or engineering units, per flag "OutLmtInEngUnits”
MaxValue		4	real	Maximum value for the telemetry point in telemetry volts or engineering units, per flag "OutLmtInEngUnits”
MinRate		4	real	Minimum change rate for the telemetry point in telemetry volts or engineering units, per flag "OutLmtInEngUnits”

Sarsat SARP Telemetry Analog Point Configuration Tables “TelemSARPS2AnalogCfg, TelemSARPS3AnalogCfg, TelemSARPS4AnalogCfg, TelemSARPS6AnalogCfg, TelemSARPS7AnalogCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MaxRate		4	real	Maximum change rate for the telemetry point in telemetry volts or engineering units, per flag "OutLmtInEngUnits”
NomValue		4	int	Nominal value for the telemetry point as raw count

6.7.2.7 SARSAT SARR Telemetry Analog Point Configuration Tables

The SARR Telemetry tables contain telemetry parameters, or points, that are monitored by the USMCC for each SARSAT satellite. The USMCC sends a daily summary to the CMCC as well as out-of-limits messages. For each point, flags indicate if the point should be processed, generate out-of-limits messages or be included in summary messages. The coefficients are set to 0 because the USMCC does not convert the telemetry volts to engineering uni for the SARR. The minimum and maximum values for the A and B side are provided in telemetry volts, if OutLmtInEngUnits = 0; otherwise they are in engineering units.

Sarsat SARR Telemetry Analog Point Configuration Tables "TelemSARRS2AnalogCfg, TelemSARRS3AnalogCfg, TelemSARRS5AnalogCfg, TelemSARRS6AnalogCfg, TelemSARRS7AnalogCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PointId	1	16	varchar	The identifier for the telemetry point. Valid points for the SARR Analog are given in table "TelemSARRAnalogPointCfg"
PointName		56	varchar	Name of the telemetry point
PointActive		(1)	bit	Flag to indicate if the telemetry point is active for this satellite: 0 Not operational or not used 1 Operational
SendOutLimit		(1)	bit	Flag to indicate if data from this point should generate an out-of-limit message: 0 Do not send OOL messages 1 Send OOL Messages If "SendSumMsg" is on, then the point will be included in any out of limits message, but out of limits will not be flagged.
SendSumMsg		(1)	bit	Flag to indicate if data from this point is contained in a summary message: 0 No 1 Yes
LogOutLmt		(1)	bit	Flag to indicate if Out of Limits values from this point are logged 0 Do not log out of limits 1 Log out of limits (SQL Default is 0)

Sarsat SARR Telemetry Analog Point Configuration Tables “TelemSARRS2AnalogCfg, TelemSARRS3AnalogCfg, TelemSARRS5AnalogCfg, TelemSARRS6AnalogCfg, TelemSARRS7AnalogCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LogAnomaly		(1)	bit	Flag to indicate if Anomalies for this Analog point are logged (that is, the last point that caused the Anomaly is logged). 0 Do not log Anomaly 1 Log Anomaly (SQL Default is 0)
OutLmtInEngUnits		(1)	bit	Out of limit values are defined in Engineering Units, 0 = No 1 = Yes (SQL Default is 0)
LogRate		2	smallint	Minimum rate (in seconds) to log data for point. 0 = Do not log. (SQL Default is 0)
Coeff_a		4	real	Polynomial equation coefficient 1 used to convert telemetry volts to engineering units
Coeff_b		4	real	Polynomial equation coefficient b used to convert telemetry volts to engineering units
Coeff_c		4	real	Polynomial equation coefficient c used to convert telemetry volts to engineering units
Coeff_d		4	real	Polynomial equation coefficient d used to convert telemetry volts to engineering units
Coeff_e		4	real	Polynomial equation coefficient e used to convert telemetry volts to engineering units
Coeff_f		4	real	Polynomial equation coefficient f used to convert telemetry volts to engineering units
MinValueA		4	real	Minimum value for the A side telemetry point in telemetry volts or engineering units, per flag “OutLmtInEngUnits:

Sarsat SARR Telemetry Analog Point Configuration Tables "TelemSARRS2AnalogCfg, TelemSARRS3AnalogCfg, TelemSARRS5AnalogCfg, TelemSARRS6AnalogCfg, TelemSARRS7AnalogCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MaxValueA		4	real	Maximum value for the A side telemetry point in telemetry volts or engineering units, per flag "OutLmtInEngUnits:
MinValueB		4	real	Minimum value for the B side telemetry point in telemetry volts or engineering units, per flag "OutLmtInEngUnits:
MaxValueB		4	real	Maximum value for the B side telemetry point in telemetry volts or engineering units, per flag "OutLmtInEngUnits:

6.7.2.8 SARSAT SARP Telemetry Digital Point Configuration Tables

The SARP Telemetry tables contain telemetry parameters, or points, that are monitored by the USMCC for each SARSAT satellite. The USMCC sends a montlhy summary to the FMCC as well as out-of-limits messages. For ea point, flags indicate the nominal status, and whether the point should be processed, generate out-of-limits messages be included in summary messages.

Sarsat SARP Telemetry Digital Point Configuration Tables "TelemSARPS2DigitalCfg, TelemSARPS3DigitalCfg, TelemSARPS4DigitalCfg, TelemSARPS6DigitalCfg, TelemSARPS7DigitalCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PointId	1	16	varchar	The identifier for the telemetry point. Valid digital points for the SARP are given in table "TelemSARRDigitalPointIdCfg"
PointActive		(1)	bit	Flag to indicate if the telemetry point is active for this satellite: 0 Not operational or not used 1 Operational (SQL Default is 1)
NominalStatus		(1)	bit	Nominal status: 0 Off 1 On (SQL Default is 1)
SendOutLimit		(1)	bit	Flag to indicate if data from this point should generate an out-of-limit message: 0 Do not send OOL messages 1 Send OOL Messages If "SendSumMsg" is on, then the point will be included in any out of limits message, but out of limits will not be flagged. (SQL Default is 1)
SendSumMsg		(1)	bit	Flag to indicate if data from this point is contained in a summary message: 0 No 1 Yes (SQL Default is 1)
LogOutLmt		(1)	bit	Flag to indicate if Out of Limits (non nominal) values from this point are logged: 0 Do not log out of limits 1 Log out of limits (SQL Default is 0)

Sarsat SARP Telemetry Digital Point Configuration Tables "TelemSARPS2DigitalCfg, TelemSARPS3DigitalCfg, TelemSARPS4DigitalCfg, TelemSARPS6DigitalCfg, TelemSARPS7DigitalCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LogRate		2	smallint	Minimum rate (in seconds) to log data for point. 0 = Do not log. (SQL Default is 0)

6.7.2.9 SARSAT SARR Telemetry Digital Point Configuration Tables

The SARR Telemetry tables contain telemetry parameters, or points, that are monitored by the USMCC for each SARSAT satellite. The USMCC sends a daily summary to the CMCC as well as out-of-limits messages. For each point, flags indicate the nominal status, and whether the point should be processed, generate out-of-limits messages o be included in summary messages.

Sarsat SARR Telemetry Digital Point Configuration Tables “TelemSARRS2DigitalCfg, TelemSARRS3DigitalCfg, TelemSARRS4DigitalCfg, TelemSARRS6DigitalCfg, TelemSARRS7DigitalCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PointId	1	16	varchar	The identifier for the telemetry point. Valid digital points for the SARR are given in table “TelemSARRDigitalPointIdCfg”
PointActive		(1)	bit	Flag to indicate if the telemetry point is active for this satellite: 0 Not operational or not used 1 Operational (SQL Default is 1)
ANominalStatus		(1)	bit	“A” side nominal status: 0 A side Off (B side On) 1 A side On (B side Off) (SQL Default is 1)
SendOutLimit		(1)	bit	Flag to indicate if data from this point should generate an out-of-limit message: 0 Do not send OOL messages 1 Send OOL Messages If “SendSumMsg” is on, then the point will be included in any out of limits message, but out of limits will not be flagged. (SQL Default is 1)
SendSumMsg		(1)	bit	Flag to indicate if data from this point is contained in a summary message: 0 No 1 Yes (SQL Default is 1)
LogOutLmt		(1)	bit	Flag to indicate if Out of Limits (non nominal) values from this point are logged: 0 Do not log out of limits 1 Log out of limits (SQL Default is 0)

Sarsat SARR Telemetry Digital Point Configuration Tables "TelemSARRS2DigitalCfg, TelemSARRS3DigitalCfg, TelemSARRS4DigitalCfg, TelemSARRS6DigitalCfg, TelemSARRS7DigitalCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LogRate		2	smallint	Minimum rate (in seconds) to log data for point. 0 = Do not log. (SQL Default is 0)

6.7.2.10 SARSAT CEMSCS Input Message Point Configuration Tables

The CEMSCS Input Message Telemetry tables describe the SAR instrument telemetry data contained in an input message received from CEMSCS, as extracted from a TIP Major Frame. A separate table is provided for each SARSAT satellite. These tables are based on the NOAA/NESDIS Interface Control Document (March 1986, updated July 1987). Note that CEMSCS Telemetry data since NOAA-H (S4) is contained in "SARM" format, while data from earlier satellites was contained in "SART" format.

Each TIP Major Frame extraction contains a 7 byte header (a 6 byte time stamp plus a 1 byte quality indicator), followed by SAR instrument telemetry data, as described in the table below. The data length per TIP Major Frame is given in field "TelmInDataLen" in table "SatCfg".

Sarsat CEMSCS Input Message Point Configuration Tables "TelemS4InputMsgPointCfg, TelemS6InputMsgPointCfg, TelemS7InputMsgPointCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
BytePosition	1.1	2	smallint	Byte position of field in input message
BitPosition	1.2	1	tinyint	Bit position within byte, where 1 is the Most Significant Bit and 8 is the Least Singificant Bit. 0 means N/A. Only set to non-zero for digital points. (SQL Default is 0)
SarType		1	char	Type of SAR Instrument data for field/point: "P" = SARP, "R"= SARR, "U"= Undefined
PointId	1	16	varchar	The identifier for the telemetry point. Valid points for the SARP and SARR are given in tables "TelemSARPAnalogPointIdCfg", TelemSARPDigitalPointIdCfg", "TelemSARRAnalogPointIdCfg", TelemSARRDigitalPointIdCfg".

Sarsat CEMSCS Input Message Point Configuration Tables “TelemS4InputMsgPointCfg, TelemS6InputMsgPointCfg, TelemS7InputMsgPointCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Side		1	char	Side for data point: “A” = A Side, “B”= B Side, “U”= Undefined. If the Side is ‘a’ or ‘b’ (lower case) and **TelemSarrDigitalPointIdCfg.ABFromAnalog** = 1**,** then the presence of this point (raw count not 0) determines whether the A or B side is active. (Eg., the A side PTC16+V determines the active side for the PTC)
PointUsed		(1)	bit	Flag to indicate if the telemetry point is used in the USMCC: 0 Not operational or not used 1 Used (SQL Default is 1)
Analog		(1)	bit	Point is Analog: 0 No (is Digital) 1 Yes
MinorFrame		2	smallint	TIP Minor Frame. Data in CEMSCS block should be sequenced in Minor Frame order.
TipWord		2	smallint	TIP Word Position within a Minor Frame. This corresponds to a commutation rate, which determines how many time the point is extracted per Major Frame. Word 12 points are extracted every 3.2 seconds. Word 13 points are extracted every 16 seconds.

6.7.3 Lut Configuration Table

The Lut Configuration table contains information about U.S. and foreign Luts, such as name and position.

Lut Configuration Table "LutCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SourceId	1	2	smallint	LUT (source) Identifier, per DDP, where the first 3 digits give the MID and the fourth digit gives the LUT within MID.
SourceName	2	6	char	LUT name. Matches field "SourceName" in the Alert Site solution tables. For U.S. LUTs, is 3 character name, such as "AK1". (Matches field ComSiteName in ComSiteCfg table, field Lut in Input Message tables.) For most foreign Luts, is name of responsible MCC followed by 1 digit number matching the fourth digit in field "SourceId"; eg., FMCC1 corresponds to "SourceId"= 2271.
MccComSiteName	Foreign?	16	varchar	Name of MCC responsible for LUT, per DDP. Matches field ComSiteName in table ComSiteCfg.
SourceNameRccMsg		6	char	LUT (source) name for output messages to U.S. RCC. Matches field SourceNameRccMsg in Output message tables.
SolId		4	int	Internal LUT solution identifier. Only set for U.S. Luts. (SQL Default is 0)
Active		(1)	bit	LUT is active
GSarp		(1)	bit	LUT provides G-SARP data, per DDP
PassSchedule		(1)	bit	LUT is included in U.S. Pass Schedule (SQL Default is 0)
SlaveInSched		(1)	bit	LUT is a slave in U.S. Pass Schedule (SQL Default is 0)
ResolveInSched		(1)	bit	Resolve LUT passes in U.S. Pass Schedule (SQL Default is 0)

Lut Configuration Table "LutCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LutLat		4	real	Latitude of LUT, per DDP
LutLon		4	real	Longitude of LUT, per DDP
LutAlt		4	real	Altitude of LUT
Description		32	varchar Nullable	Description (name of physical location), per DDP
DualLutName		3	char Nullable	Name of Dual/colocated Lut, whose Pass Schedule is coordinated with the Pass Schedule of this Lut.. Only set for U.S. LUTs.
Expect121		(1)	bit	It is expected that 121 Mhz Frequency will be processed ok by Lut. Determines if Lut is active for Next Pass/Missed Pass processing for this frequency. 0 = False (not Expected) 1 = True (Expected) (SQL Default is 0)
Expect243		(1)	bit	It is expected that 243 Mhz Frequency data will be processed ok by Lut. Determines if Lut is active for Next Pass/Missed Pass processing for this frequency. 0 = False (not Expected) 1 = True (Expected) (SQL Default is 0)
Expect406		(1)	bit	It is expected that 406 Mhz Frequency data will be processed ok by Lut. Determines if Lut is active for Next Pass/Missed processing for this frequency. 0 = False (not Expected) 1 = True (Expected) (SQL Default is 0)

6.8 Database Maintenance and Report Generation Configuration Tables

6.8.1 Database Maintenance (Archive and Purge) Configuration Tables (Preliminary)

The following tables are used to archive and purge USMCC Database tables. Table “DBControlMainCfg” is used tc determine if rows in a (primary) table need to be archived or purged. Table “DBControlItemCfg” is used to determin which (secondary) tables, if any, have ‘linked’ rows to the primary table, which need to be archived or purged along with rows in the primary table. (Note: there may be a function implicit in the SQL database that makes this associatic Archiving and purging of associated rows in different tables must be performed in a particular order, so that foreign keys in a secondary table always contains a valid reference to a primary key in the primary table.

To archive secondary tables, the row in the primary table should first be created in the archive table. (In order to preserve Record Identifiers in the archive table, Identity columns should be not set, so that all field values are copied is from the table to be archived.) Then the rows in the secondary tables should be created according to the field “BuildOrder” in Table “DBControlItemCfg” in ascending order, which mirrors the order in which the rows are creat in the table to be archived.

To purge secondary tables, the rows in the secondary tables should be deleted according to the field “BuildOrder” in Table “DBControlItemCfg” in descending order, which reverses the order in which the rows are created in the table be purged. Finally, the row in the primary table is deleted.

Field “LinkFieldName” in Table “DBControlMainCfg” is used to select rows in item tables associated with a row ir particular main table.

Field “ItemFieldName” in Table “DBControlMainCfg” is used to select item tables that are associated with a partic main table. (Over 20 secondary tables are associated with the main input message (“InputMessage”) table. However field “ItemFieldName” in conjunction with field “ItemFieldValue” limits the number of item tables that need be sele for a particular main table to the minimum required.)

For instance, in Table “DBControlMainCfg”, assume that field “MainTableName” is “InputMessage”, field “LinkFieldName” is “InMsgId”, and field “ItemFieldName” is “MsgName”. In Table “DBControlItemCfg”, assum that field “MainTableName” is “InputMessage”, field “ItemTableName” is “LutPcr” and field “ItemFieldValue” is “LutPassData”. This means that rows in item table “LutPcr” are associated with a row in main table “InputMessage” field “MsgName” in table “InputMessage” is “LutPassData” and the value of “InMsgId” is the same in the two table:

6.8.1.1 Database Maintenance Main Configuration Table

Database Maintenance Main Configuration Table "DBControlMainCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MainTableName	1	32	varchar	Name of main (primary) table
LinkFieldName		32	varchar Nullable	Name of field in main table used to link to item (secondary) tables. (Should equal primary key.) If null, then no secondary tables are defined.
ItemFieldName		32	varchar Nullable	Name of field in main table used to select rows in item (secondary) tables.
AgeFieldName		32	varchar	Name of field in main table used to determine age of row
ArchiveAgeDays		2	smallint	Age in days to archive data
PurgeAgeDays		2	smallint	Age in days to purge data
ArchiveDoneTime		8	datetime Nullable	Time for which archive is up to date ?
PurgeDoneTime		8	datetime Nullable	Time for which purge is up to date ?

6.8.1.2:Database Maintenance Item Configuration Table

Database Maintenance Item Configuration Table "DBControlItemCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MainTableName	1.1	32	varchar	Name of main (primary) table
BuildOrder	1.2	2	smallint	Build order of item (secondary) table for main table, beginning with 1. To archive, rows in secondary tables are built in ascending build order. To purge, rows in secondary tables are deleted in descending build order.
ItemTableName		32	varchar	Name of item (secondary) table
ItemFieldValue		32	varchar Nullable	Value of field "ItemFieldName" in main table used to select rows in this item (secondary) table.

6.9.1 Communications Data Converter Configuration Tables

6.9.1 Communications Data Converter Input Message Configuration Tables

These tables contains configuration about input messages, such as the message name and the subsystems (applicatioı that are required to process a input message. These tables are used by the (Com) Input Data Converter to generate entries in the InputMessage and InputProcess tables. If the Operator Message Priority (field OperPrior) is > 0, an entry is generated in the “OperMsgLog” table. If the Operator Message Priority is > 29, then the Operator is require to take action. Table 6.9.1.1 describes Lut input messages and Table 6.9.1.2 describes Sit (MCC) input messages.

6.9.1.1 Communications Data Converter Input Message Configuration Tables

Every Lut input begins with a Tag buffer, that is written to the “LutTagBufferIn” table. Any Lut input following the Buffer is written to an appropriate Input table, as given in field “TableName”.

For Lut Pass data a series of input transmissions (or blocks) are grouped into an input message at the MCC, where a Lut Pass input message (corresponding to an entry in the “LutPcr” table) is initiated when a Lut Start Pass block is received, accumulated as Lut Headers and Solutions are received, and completed when a Lut End Pass block is received. (See Field “LutPasType”.)

A Lut Pass input message is associated with a primary key of Lut Function = 7 (corresponding to a Lut Start Pass block) and Lut Block Number = -1. (Since a Lut Block Number of -1 is not received from the Lut, a retrieval is mad based on a ‘dummy’ entry. This retrieval is made in addition to a retrieval based on the actual block number receive To initiate a Lut Pass input message, a retrieval should be made for LutFunc = 7 and LutBlockNum = -1, even if a Lı Start Pass block is not received.

An input block may cause more than one MCC input message to be generated, by setting a dummy entry with LutBlockNum = -1.

Input Message Lut Configuration Table ”InputMessageLutCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LutFunc	1.1	2	smallint	Lut function code. -1 means Tag Buffer. 7 (with LutBlockNum= -1) means Lut Pass. (See LutPasType). -10 = Nesdis Telemetry data.

Input Message Lut Configuration Table "InputMessageLutCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LutBlockNum	1.2	2	smallint	Lut block number. 0 means a header or first block within function (actual Block number = 0). 1 means a solution or secondary block within function (actual Block number > 0). -1 means every Block within function, and applies in addition an entry based on the actual Block number. (SQL Default is 0)
LutPasType		1	char	Lut Pass type: type of block within a Lut Pass. See LutFunc. 'B'= begin Lut Pass (LutPcr), 'M'=middle of Lut Pass, 'E'= end Lut Pass. SQL Default is Blank
TableName		24	varchar	Name of detail table, to contain data that follows the Tag Buffer. If blank, no data follows the Tag Buffer.
MsgName		24	varchar Nullable	Input Message name. If null, no input message is defined.
Test		(1)	bit	Message is test (SQL Default is 0)
Hold		(1)	bit	Hold Message from processing (SQL Default is 0)
OperPrior		1	tinyint	Operator priority: 00 ° 09 Not used 10 ° 19 Analyst Level (not for display to the operator) 20 ° 29 Operator Information (no action required) 30 ° 39 Operator Action (operator action required) 40 ° 49 Emergency (Immediate action required) 0 means no entry built in Operator Message Log. (SQL Default is 0)

Input Message Lut Configuration Table ”InputMessageLutCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OperDisplay		1	char	Operator Display requested: ‘Y’ = Yes (generic display), ‘N’ = No If Yes, then OperPrior must be > 29. Also, in the Operator Message Log entry, set fields TableName and TableId, so that row TableId in table TableName should contain a field “TextMsg”, that contains (generic) ASCII text to display. (SQL Default is ‘N’)
SubsysIdList		40	varchar Nullable	List of Subsystem Identifiers for which entries are made in the InputProcess table. Items in the list are 4 characters, and separated by a comma. If null, no input process is defined.

6.9.1.2 Input Message Sit Configuration Table

The Sit Number Table (SitNumTable) field allows different portions of the same Sit message (Sit Number) to be written to different input tables under configuration control. For example, a Sit Orbit Vector Header is associated wi one input table (SitNum=215, SitNumTable=’H’) and a Sit Orbit Vector is associated with another input table (SitNum=215, SitNumTable=”I”).

The Sit Number Type (SitNumType) field defines characteristics within the Sit Number. It allows different versions the same Sit message (Sit Number) to be distinguished, where a Sit message is received by the MCC in Old format c New format. In this case, the SitNumType is “N”, “O” or “C”. For example, a Sit 115 could be defined at one time be received in Old format (SitNumType=”O”) and at another time to be received in New format (SitNumType=”N”)

Input Message Sit Configuration Table ”InputMessageSitCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SitNum	1.1	2	smallint	Sit number. (SQL Default is zero.) 0 = Dummy for undefined Sit Number -1= Dummy for ASCII message -2= Dummy for Mail message
SitNumTable	1.2	1	char	SIT number table: type of input table within Sit number. ‘ ’= Header (control) record (normal. WCVT uses to process .IN files) ‘O’= Header (control) record (special, WCVT uses to process .OUT files) ‘I’= Item (detail) record (if multiple tables per SIT. Eg., 215) (SQL Default is Blank)
SitNumType		1	char	SIT number type: defines format within Sit number, where needed. ‘N’= New Sit format, ‘O’= Old Sit format, ‘C’= Sit format (New vs. Old) is defined per ComSiteName in ComSiteCfg (SQL Default is Blank)
TableName		24	varchar	Name of detail table
MsgName		24	varchar Nullable	Input Message name. If null, no input message is defined.
Test		(1)	bit	Message is test (SQL Default is 0)

Input Message Sit Configuration Table "InputMessageSitCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Hold		(1)	bit	Hold Message from processing (SQL Default is 0)
OperPrior		1	tinyint	Operator priority: 00 ° 09 Not used 10 ° 19 Analyst Level (not for display to the operator) 20 ° 29 Operator Information (no action required) 30 ° 39 Operator Action (operator action required) 40 ° 49 Emergency (Immediate action required) 0 means no entry built in Operator Message Log. (SQL Default is 0)
OperDisplay		1	char	Operator Display requested: 'Y' = Yes (generic display), 'N' = No If Yes, then OperPrior must be > 29. Also, in the Operator Message Log entry, set fields TableName and TableId, so that row TableId in table TableName should contain a field "TextMsg", that contains (generic) ASCII text to display. (SQL Default is 'N')
SubsysIdList		40	varchar Nullable	List of Subsystem Identifiers for which entries are made in the InputProcess table. Items in the list are 4 characters, and separated by a comma. If null, no input process is defined.

6.9.3 Communications Data Converter Output Message Sit Configuration Table

This table defines the format of the Sit Output Messages that are generated by the Communications Data Converter.

The Data Converter reads the OutputProcess table for new rows, where each row represents a request to send an output message. The OutputProcess table specifies the message to be sent (OutMsgId), the destination of the message (ComSiteName) and the format of the message (SitNum and SitNumType). The Data Converter finds the corresponding row in the Output Message Sit Configuration table for the SitNum and SitNumType. This row contai the name of the (ASCII) Conversion Table (CvtTableName) that defines the format of the output message.

Communications Converter Output Message Sit Configuration Table "CCvtOutputMessageSitCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SitNum	1.1	2	smallint	SIT Number for the output message.
SitNumType	1.2	1	char	SIT number type: defines format within Sit number, where needed. See detailed description in table "SitHeaderOut" (SQL Default is Blank). "*" is a wildcard, meaning that the input SitNumType is ignored. (SQL Default is Blank.)
MsgFormat		4	varchar	Format of Message: "RCC", "MCC", "SPOC", "ALL". Is based on the type of the Com Site that is the main recipient of the message. "ALL" indicates that the message applies to all types of Com Sites.
MsgName		24	varchar Nullable	Output Message name.
CvtTableName		24	varchar	Name of Conversion Table used to format output message.
MultiSol		(1)	bit	Multiple solutions may be sent in one output message: 1 = yes 0 = no If yes, the ItemNum must be set > 0 in the OutputProcess table.

Communications Converter Output Message Sit Configuration Table “CCvtOutputMessageSitCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MultiSit		(1)	bit	Multiple solutions may be sent in one output message: 1 = yes 0 = no (SQL Default) Field not currently used.
SitMsgHdr		(1)	bit	Sit Message Header (Message Fields 1 - 3) included in output message: 1 = yes (SQL Default) 0 = no Field not currently used.
SitNumHdr		(1)	bit	Sit Number Header (message Fields 4 - 5) included in output message: 1 = yes (SQL Default) 0 = no Field not currently used.

6.9.4 Communications Data Converter Sit Message Field Format Configuration Table

This table defines the format of fields in Sit Messages, in accordance with the Standard Interface Document (SID). I used by the Communications Data Converter to receive Sit Messages and convert them into various Input Message tables. While this table could be used to convert output messages, output Sit messages are converted via an ASCII configuration file CVTMSG.CFG.

Note that the Com Data Converter will process fields in “MsgFldNum” sequence, in accord with the use of the Message Field Number in the SID. A SID Message Field (“MsgFldNum” may have more than one sub-field, where each sub-field corresponds to a SQL field. In the SID, the first sub-field in a Message field is preceeded by a slash (‘/’). Subsequent sub-fields in a Message field are usually preceeded by a space (‘ ’); however, some sub-fields follo the previous sub-field without a space separator.

This table contains fields that describe the SQL fields associated with a SID Message field, such as SitHdrCols and Sit121Cols. All such fields contain the SQL field names separated by a comma, in the same sequence as they occur the SID message field, as defined in “Format”.

Communications Converter Sit Message Field Format Configuration Table “SitMsgFldFormatCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MsgFldNum	1	4	varchar	SIT Message Field Number. This begins with a two digit number, in accord with the SID. Where appropriate, it is followed by an “A” or “B” to indicate the “A” or “B” side. “O” indicates that this is the old message format, that is, pre Issue 4 of the SID.
MFName		32	varchar Nullable	Message Field name.
Format		32	varchar Nullable	Format of Message field, per the SID. Each character describes, in sequence, the format of the field: ‘s’= sign (+ or -), ‘n’= numeric (‘0' to ‘9'), ‘x’= hexadecimal (‘0' to ‘9', ‘A’ to ‘F’), ‘a’= alphanumeric, ‘ ’= space

Communications Converter Sit Message Field Format Configuration Table "SitMsgFldFormatCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Type		1	char	Type of field to be converted: 'T' = date time field, 'V'= nullable date time field, 'S' = satellite field, 'F'= 1 character flag followed by another field without an intervening space, 'N'= narrative text, 'D' = default is determined by Format, 'U'= Unused (SQL Default 'D')
SitHeaderCols		64	varchar Nullable	SQL Field (Column) names for Sit Header data. The field names are in the same sequence as they occur in the SID message field, separated by a comma, as defined in "Format". On input messages, Sit Header fields are put to the SitHeaderIn table.
Sit121Cols		64	varchar Nullable	SQL Field (Column) names for Sit 121 Mhz/243 MHz/406 Interferer solution data. On input messages, the associated fields are put to the Sit121SolutionIn table.
Sit406NoDopCols		64	varchar Nullable	SQL Field (Column) names for Sit 406 Mhz no Doppler solution data . On input messages, the associated fields are put to the Sit406SolNoDoplrIn table.
Sit406DopCols		64	varchar Nullable	SQL Field (Column) names for Sit 406 Mhz Doppler solution data . On input messages, the associated fields are put to the Sit406SolDopplerIn table.
Sit215Cols		64	varchar Nullable	SQL Field (Column) names for Sit 215 Orbit Vector data . On input messages, the associated fields are put to the SitOrbVecSatHdrIn and SitOrbitVectorIn tables.

Communications Converter Sit Message Field Format Configuration Table "SitMsgFldFormatCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SitTimeCalCols		64	varchar Nullable	SQL Field (Column) names for Sit 415 Time Calibration data . On input messages, the associated fields are put to the SitTimeCalIn table.
SitNarTextCols		64	varchar Nullable	SQL Field (Column) names for Sit Narrative Text data . On input messages, the associated fields are put to the SitNarTextIn
SitSpaceCmdCols		64	varchar Nullable	SQL Field (Column) names for Sit Spacecraft Command data . On input messages, the associated fields are put to the SitSpaceCmdReqHdrIn and SitSpaceCmdReqIn table.
SitBcnRegCols		64	varchar Nullable	SQL Field (Column) names for Sit 406 Beacon Registration data . On input messages, the associated fields are put to the Sit406BcnRegIn table.

6.10 Other Configuration Tables

6.10.1 MCC Input Solution Identifier Configuration Table

This table contains the ‘seed’ value that uniquely identifies an input solution table and the input solutions contained : given table. The uniqueness of an input solution identifier (Field “InSolId”) is implemented by using the SQL Identi attribute. The Identity attribute has the form Identity(x,y), where “x” indicates the Seed or Initial value and “y” indicates the Increment.

This table may be used to determine which input solution table contains a given input solution (identified by Field “InSolId”). It allows a input solution to be tracked backwards from an Alert Site or Output Message to the source Input Message.

MCC Input Solution Identifier Configuration Table ”InputSolutionIdCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Seed	1	2	smallinit	Seed value for Input Solution Table
TableName		24	varchar	Name of Input Solution Table

6.10.2 MCC System Parameter Configuration Table

This table contains general configuration parameters that may be used by any Subsystem. Typically it contains “stan alone” parameters that are not part of any larger structure.

MCC System Parameter Configuration Table ”SystemParmCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SubsysId	1.1	4	char	Identifier of Subsystem that owns parameter: ALL All subsystems ALRT Alert Processing COM Communications CCVT Com Converter DBMN Database Maintenance OPER Operator Interface SMAP SAR Mapping SDAT System Data SMON System Monitoring TELM Telemetry
ParmName	1.2	32	varchar	Parameter Name (eg., “LastInProcId”)
Value		128	varchar nullable	Parameter Value.
SubValue1		128	varchar nullable	Parameter Sub-Value 1, used to separate multiple values.
SubValue2		128	varchar nullable	Parameter Sub-Value 2, used to separate multiple values.
SubValue3		128	varchar nullable	Parameter Sub-Value 3, used to separate multiple values.
SubValue4		128	varchar nullable	Parameter Sub-Value 4, used to separate multiple values.
Description		255	varchar	Description of parameter
UpdateTime		8	datetime	Time of last update (SQL Default is time of record insert)

6.10.3 Operator Message Log Configuration Table

The Operator Message Log Configuration table contains information used to construct message written to the Operat Message Log. It also contains additional information (“OperInfo”) to enable the Operator to understand and respond to significant operational events.

Operator Message Log Configuration Table ”OperMsgCfg”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SubsysId	1.1	4	char	Identifier of Subsystem (application) that generates the Operator message: COM Communications CCVT Com Converter ALRT Alert Processing OPER Operator Interface SMAP SAR Mapping SDAT System Data SMON System Monitoring DBMN Database Maintenance (SQL Default is “ALL”)
MsgName	1.2	24	varchar	Name of Operator Message.
ProgPrior		1	tinyint	Programmer priority (SQL Default is 20)
OperPrior		1	tinyint	Operator priority 00 ° 09 Not used 10 ° 19 Analyst Level (not for display to the operator) 20 ° 29 Operator Information (no action required) 30 ° 39 Operator Action (operator action required) 40 ° 49 Emergency (Immediate action required) (SQL Default is 20)

Operator Message Log Configuration Table "OperMsgCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OperDisplay		1	char	Operator Display requested: 'Y' = Yes (generic display), 'N' = No If Yes, then in the OperMsgLog, field "TextMsg" in row TableId in table TableName should contain (generic) ASCII text to display. (SQL Default is 'N')
SubsysMsgNum		4	int	Message number assigned by the Subsystem that generated the message
TableName		32	varchar Nullable	Name of primary table for related data. Null if not known in advance or not applicable.
Program		16	varchar Nullable	Program name. Null if not known in advance
MsgText		150	varchar Nullable	Text message generated by the Subsystem
OperInfo		16	varchar Nullable	Link to additional information to allow the Operator to understand and respond to this event. (It is expected that this value would be incorporated into the text of the OperMsgLog entry, with a fixed header to identify it.)

6.10.4 Beacon Activation Reason Configuration table (Morning Briefing).

This table contains reasons for Beacon activations. It is used by the Operator to select a reason why a beacon was active in preparing the Morning Briefing.

Beacon Activation reason Configuration table: "BcnActReasonCfg"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
BcnActReason	1	24	varchar	Reason for beacon activation.
Comments		128	varchar Nullable	Description of this reason
AddTime		8	datetime	Time record added (SQL Default is time of record insert)
LastUpdTime		8	datetime	Time record last updated (SQL Default is time of record insert)

7 Off-line Databases

7.1 406 MHz Registration Database

The 406 MHz Registration Database contains information on 406 MHz emergency beacon owners and vessels and aircraft using emergency beacons. Information on the owner, emergency points of contact, and vessel or aircraft is received from beacon owners. The information is then manually entered into the registration database. The USMC(upon detection of a 406 MHz emergency beacon, appends the registration information to alerts transmitted to nationa RCCs or SPOCs. Table 8.1.1 contains the data structure for the 406 MHz Registration Database. The first line unde: the comments column addressed the reference beacons (i.e, all beacons, EPIRBs, ELTs or PLBs). The field name as outputted on alert messages in presented in *italics*.

The 406 MHz Registration Database currently exists as a Dbase III file. Where the Field Name in the Dbase file and the SQL Table differ, the Dbase Field Name is shown in brackets [ ] below the SQL Table name, in the Column “Fie Name”.

406 MHz Registration Database Table ”RegistrationDB406”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
BcnId15 [BID]	1	15	char	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001
REG_TYPE		1	tiny	All Beacons Type of output format (0 - EPIRB, 1 - ELT, 2 - PLB, 7- Test)
BCN_TYPE		23	char	All Beacons Type of beacon according to C/S T.001 (e.g. SERIALIZED AVIATION)
BCN_CAT		4	char	EPIRB Beacon category, manual or automatic activation (CAT1, CAT2) *ACTIVATION TYPE*
BCN_MANUF		14	char	All beacons Beacon manufacturer *MANUFACTURER*

406 MHz Registration Database Table "RegistrationDB406"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
BCN_MODEL		14	char	All beacons Manufacturer model number *MODEL NUMBER*
ONAME	2	28	char	All beacons Owners name, last name first, name of company or name of federal or state agency followed by application *OWNER*
LEAS_AGENT		28	char	ELT Name of company leasing the aircraft *LEASING AGENT*
ADDRESS		23	char	All beacons Owners address or PO BOX *OWNER*
CITY		23	char	All beacons City *OWNER*
ST		2	char	All beacons State abbreviation *OWNER*
ZIP		9	char	All beacons Zip code *OWNER*
PROV		17	char	All beacons Province
MAIL_CODE		6	char	All beacons Mailing code (foreign addr)
COUNTRY		10	char	All beacons Country *OWNER*
HTEL		12	char	All beacons Home telephone *HOME TEL*

406 MHz Registration Database Table "RegistrationDB406"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
WTEL		12	char	All beacons Work telephone *WORK TEL*
CARRIER		20	char	All beacons Type of vessel, PLB use or aircraft (depending on beacon decode): SAIL (sloop, yawl, schooner, other) POWER (fishing, tug/tow, cargo, tanker, cabin cruiser, other) AIRCRAFT (general, commercial, air carrier) USE (land vehicle, hunting/fishing, hiking, boating, cross country skiing, other) EPIRB: *TYPE* ELT: ??? PLB: *USE*
COLOR		13	char	EPIRB, ELT Color of vessel/aircraft *COLOR*
TEL_INMSAT		12	char	EPIRB INMARSAT phone number *INMARSAT NUMBER*
TEL_CELULR		12	char	All beacons CELLULAR phone number *CELLULAR NUMBER*
LENGTH		2	smallint	EPIRB Length of vessel *LENGTH OVERALL (FT)*
CAPACITY		2	smallint	EPIRB, ELT Capacity of vessel/aircraft *CAPACITY*

406 MHz Registration Database Table "RegistrationDB406"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
VESSEL_AIR	3	21	char	EPIRB, ELT Vessel name or aircraft manufacturer/model depending on decode EPIRB: *VESSEL NAME* ELT: *AIRCRAFT MANUFACTURER/MODEL*
CALLSIGN	4	10	char	EPIRB Radio call sign of vessel *RADIO CALL SIGN*
REGISTNUM	5	10	char	EPIRB, ELT Vessel documentation or registration number, or aircraft tail number depending on beacon decode EPIRB: *REGISTRATION NO* ELT: *TAIL NUMBER*
RADIOEQUIP		21	char	All beacons Radio equipment on board vessel/aircraft or person INMARSAT number, VHF_FM, VHF_AM, HF, MF, Other *RADIO EQUIP*
PORT		20	char	EPIRB, ELT Vessel homeport or airport depending on beacon decode EPIRB: *HOME PORT* ELT: *AIRPORT*

406 MHz Registration Database Table "RegistrationDB406"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
PORT_CITY		23	char	EPIRB, ELT Port city depending on beacon decode EPIRB: *HOME PORT* ELT: *AIRPORT*
PORT_ST		2	char	EPIRB, ELT Port state depending on beacon decode EPIRB: *HOME PORT* ELT: *AIRPORT*
ALTPORT		22	char	EPIRB, ELT Alternate vessel homeport or airport depending on beacon decode EPIRB: *ALTERNATE PORT* ELT: *ALTERNATE AIRPORT*
PRINAME1		23	char	All beacons Primary emergency point of contact *CONTACTS*
PRINHTEL		12	char	All beacons Primary contact's home telephone number *CONTACTS*
PRINWTEL		12	char	All beacons Primary contact's work telephone number *CONTACTS*
ALTNAME2		23	char	All beacons Alternate emergency point of contact *CONTACTS*
ALTHTEL2		12	char	All beacons Alternate contact's home telephone number *CONTACTS*

406 MHz Registration Database Table "RegistrationDB406"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ALTWTEL2		12	char	All beacons Alternate contact's work telephone number *CONTACTS*
INITDATE		8	datetime	All beacons Date registration first entered *DATE FIRST REGISTERED*
LAST_EDIT		8	datetime	All beacons Date of last changes to registration *DATE LAST UPDATED*
INCOMPLETE		1	char	All beacons Owner's address correct or all information provided
CONFIRMPRT		8	datetime Nullable	All beacons Date confirmation sent
CONFIRMRCV		1	char	All beacons Confirmation received?
DECALEXP		8	datetime Nullable	All beacons Date decal expires *DATE DECAL EXPIRES*
SRR01		4	char	All beacons Primary SAR code for homeport or airport
SRR02		4	char	All beacons Alternate SAR code for homeport or airport
REMARKS		120	varchar Nullable	All beacons Comments *REMARKS*
INTERNL_NO		10	char	All beacons Internal tracking number
OPER_ID		16	varchar	All beacons LAN user ID

406 MHz Registration Database Table "RegistrationDB406"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
DATE_RCVD		8	datetime Nullable	All beacons Date registration received at SOD

7.2 LUT Pass Schedule Table

LUT Pass Schedule Table ”LutPassSchedule”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Lut	1.1	3	char	Lut (matches Com Site name)
Sat	1.2	3	char	Satellite Id
Orbit	1.3	4	int	Orbit Number
Aos	2	8	datetime	Acquisition of signal time
Los		8	datetime	Loss of signal time
Tca		8	datetime	Time of closest approach (short term: set to average of Aos and Los)
TakePass		(1)	bit	1= Pass is scheduled to be taken
Conflict		(1)	bit	1= Pass is in conflict with another pass
NorthBound		(1)	bit	1= Satellite path is north bound (computed from azumiths)
EastWestHigh		(1)	bit	1= East/west priority is high
MstSlaveHigh		(1)	bit	1= Master/slave priority is high
OnlyVisHorizon0		(1)	bit	1= Pass is only visibile at earth horizon (0 degrees)
PassInSpec		(1)	bit	1= Pass in within specification (chargeable)
AzmAos		4	real	Azimuth at AOS
AzmLos		4	real	Azimuth at LOS
AzmTca		4	real	Azimuth at TCA
MaxElev		4	real	Maximum elevation angle
LatAos		4	real	Satellite latitude at AOS
LonAos		4	real	Satellite longitude at AOS
LatLos		4	real	Satellite latitude at LOS
LonLos		4	real	Satellite longitude at LOS
PriorityScore		4	int	Pass priority score

LUT Pass Schedule Table ”LutPassSchedule”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
FileJulDay		2	smallint	Julian day when data made available, extracted from extension of (last) Input file name
DoneTime		8	datetime	Time record (last) written
TimeEqu		8	datetime Nullable	Time satellite crossed equator
LonEqu		4	real Nullable	Longitude at which satellite crossed equator

7.3 Morning Briefing Tables

7.3.1 Morning Briefing 406 MHz Alert Site Summary table

This table summarizes 406 MHz beacons activations that are to be reported in the USMCC Morning Briefing. All closed 406 MHz Alert Sites which were active in USA Search and Rescue Regions or whose Beacon Id is encoded with the USA MID are generally reported in the Morning Briefing.

As soon as a 406 MHz Alert Site is closed, a check is performed to see if the Site should be included in the Morning Briefing. If so, data is extracted for the Alert Site to the Morning Briefing Summary table and associated tables. Tl USMCC Controller is notified when Alert Site data is first extracted, so that he may supply additional information al the beacon activation. Alert Site data may be extracted more than once, due to the fact that old data is added to closed 406 MHz Alert Sites.

Morning Briefing 406 MHz Alert Site Summary table: "MornBrief406AlertSiteSum"

Field Name	Key	Bytes	Data Type	Description
AlertSiteNum	1	4	int	Site Number: unique Id of Alert Site
BcnId15		15	varchar	406 Beacon Id code (bits 26-85), hexadecimal character, with location bits set to default values per C/S T.001.
GeneralLocation		36	varchar Nullable	General location of the beacon. May include City, Port, State or a distance from a known location.
StateGeneralLoc		2	char Nullable	State of General location of the beacon. Used to set field "Gen_Loc" in IHDB.
MidName		16	varchar Nullable	Country (MID) name, per MidInfoCfg table, as encoded in the Beacon Id. If the MID code is unassigned, then this field contains the MID code .
ActualSrr		16	varchar Nullable	List of actual SRR name(s) as entered by the user. Contains up to 4 SRRs, which are each 4 bytes.
ActualLat		4	real Nullable	Latitude of Actual location of the beacon, as entered by the user. (The range ± 00.000 to ± 89.999, + is north.)

Morning Briefing 406 MHz Alert Site Summary table: “MornBrief406AlertSiteSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ActualLon		4	real Nullable	Longitude of Actual location of the beacon, as entered by the user. (The range is ± 000.000 to ± 179.999, + is east.)
SpecSrr		16	varchar Nullable	Special (exceptions processing) SRR list, 4 bytes per SRR, as in GEOSORT.
A_Srr		16	varchar Nullable	A Side SRR table (for first Doppler solution in Site), 4 chars per SRR, as determined in GEOSORT, and defined in the “AlertSite406Sum” table.
A_Lat		4	real Nullable	Latitude location of first A solution. (The range is ± 00.000 to ± 89.999, + is north.)
A_Lon		4	real Nullable	Longitude location of first A solution. (The range is ± 000.000 to ± 179.999, + is east.)
B_Srr		16	varchar Nullable	A Side SRR table (for first Doppler solution in Site), 4 chars per SRR, as determined in GEOSORT, and defined in the “AlertSite406Sum” table.
B_Lat		4	real Nullable	Latitude location of B solution. (The range is ± 00.000 to ± 89.999, + is north.)
B_Lon		4	real Nullable	Longitude location of B solution. (The range ± 000.000 to ± 179.999, + is east.)
CompSrr		16	varchar Nullable	List of SRRs for the composite solution.
CompLat		4	real Nullable	Site Composite latitude (range is ± 00.000 to ± 89.999, + is north)
CompLon		4	real Nullable	Site Composite longitude (range is ± 000.000 to ± 179.999, + is east)

Morning Briefing 406 MHz Alert Site Summary table: "MornBrief406AlertSiteSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
EncSrr		16	varchar Nullable	SRR table for first encoded solution in Site: 4 chars per SRR, as in GEOSORT
EncLat		4	real Nullable	Latitude, degrees [-90.0, +90.0], for first Encoded solution in Site
EncLon		4	real Nullable	Longitude, degrees [-180.0, +180.0], for first Encoded solution in Site
LeoDetectTm1		8	datetime Nullable	First time beacon was detected by a LEO satellite.
LeoDetectRcvTm		8	datetime Nullable	Time the Leo detection was first received by the USMCC
FirstAlertTCA		8	datetime	Time of closest approach to the beacon when it was first detected.
FirstAlertRcvTm		8	datetime	Time the first alert was received at the USMCC.
FirstCompTCA		8	datetime Null	Time of closest approach of the (latter) solution that allowed ambiguity to be resolved.
NumRptPas		2	smallint	Number of reported Passes for the Alert Site.
ASiteDuration		4	real	Time the site remained open in hours.
NumBlownPas		2	smallint	Number of reported passes in site with blown solutions. (SQL Default is 0)
RegDate		8	datetime Nullable	Date the beacon was registered as listed in the 406 Registration DataBase.
RegDataUsed		1	char Nullable	Flag to indicate if 406 Registration data was used in resolving the case, as determined by SAR authorities: 'Y' = Yes, 'N'= No
RegVesselName		21	varchar Null	The name of the vessel as listed in the 406 Registration DataBase.

Morning Briefing 406 MHz Alert Site Summary table: "MornBrief406AlertSiteSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Manufact		14	varchar Nullable	Beacon Manufacturer
Model		14	varchar Nullable	Beacon Model Number
BcnType		24	varchar Nullable	Beacon type, as derived from the "AlertSite406Sum" table. Eg. "Float Free" (RCC message)
OpenTime		8	datetime	Time the Alert Site opened (time of first entry)
CloseTime		8	datetime	Time the Alert Site closed.
BcnReasonAct		24	varchar Nullable	Reason for the beacon activation, per the "BcnActReasonCfg "table, eg, "Distress" "Accidental" "Manual" "Mishandling" "Malfunction" "Unknown"
Comments		variable	text Nullable	User determined information about the beacon activation
RegInfoChange		255	varchar Nullable	New Registration information (supplied by SAR authorities), such as address change, sale of vessel, etc.
ReasonClosed		1	char	Reason the Alert Site was closed, as derived from the "AlertSite406Sum" table : 'F' = forced by Operator 'M'= missed passes 'T'= time (age out) ' ' = not closed (SQL Default is Blank)
AddTime		8	datetime	Time this record was added to this table

Morning Briefing 406 MHz Alert Site Summary table: "MornBrief406AlertSiteSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LastUpdTime		8	datetime	Time this record was last updated (SQL Default is time of record insert)
MBriefExtractionTm		8	datetime Nullable	Time record was extracted for morning brief. No users or programs should update or modify this record after this time is set.
UseForMBrief		1	char	Flag that indicates if this record is to be used in the Morning Briefing. 'Y"= Yes, 'N' = No (SQL Default is 'Y')
OperComplete		1	char	Flag that indicates if Operator supplied information is complete. 'Y"= Yes, 'N' = No (SQL Default is 'N')

7.3.2 Morning Briefing 406 MHz Alert Site GOES Satellite solution table:

This table summarizes solution data provided by geostationary satellites for 406 Alert Sites extracted for the Mornin Briefing. It is linked to the "MornBrief406AlertSiteSum" table by the field AlertSiteNum.

Morning Briefing 406 MHz Alert Site GOES Satellite solution table: "MornBrief406AlertSiteGeoS"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AlertSiteNum	1	4	int	Site Number: unique Id of Alert Site <FK=MornBrief406AlertSiteSum>
Sat	2	3	char	Satellite Identifier
SourceMccName	3	16	varchar	Name of MCC that sent the alert to the USMCC
TcaTime		8	datetime	Time of Closest Approach for A curve (or Detect time), for first solution received for AlertSiteNum, Sat, SourceMccName.
RcvTime		8	datetime	Time first solution received at USMCC for AlertSiteNum, Sat, SourceMccName.
AddTime		8	datetime	Time this record was written
LastUpdTime		8	datetime	Time this record was last updated (SQL Default is time of record insert)

7.3.3 Morning Briefing 121.5/243/406 MHz Alert Site Daily Counters.

This table keeps a records of number of Alert Sites (Beacon Activations) by beacon frequency. It also records number of beacons activated based on MidCode, location, and registration for USA beacons.

Morning Briefing 121.5/243/ 406 MHz Alert Site Daily Counters table: "MornBriefCounters"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MBriefDate	1	8	datetime	The date of the associated Morning Briefing. The time is set to 00:00:00 (hours, minutes and seconds.)
Num123FirstAlert		4	int	Number of First Alert 121.5/243 MHz Alert Sites. (SQL Default is 0)
Num123Comp		4	int	Number of Composite 121.5/243 MHz Alert Sites. (SQL Default is 0)
Num406FirstAlert		4	int	Number of First Alert 406 MHz Alert Sites. (SQL Default is 0)
Num406Comp		4	int	Number of Composite 406 MHz Alert Sites. (SQL Default is 0)
NumUSARegUnlocated		4	int	Number of (USA MID?) 406 MHz beacons detected with no location that are registered in the USMCC Database. (SQL Default is 0)
NumUSARegistered		4	int	Number of (USA MID?) 406 MHz beacons detected that are registered in the USMCC Database. (SQL Default is 0)
AddTime		8	datetime	Time this record was written
UpdateTime		8	datetime	Time this record was last updated (SQL Default is time of record insert)
MBriefExtractionTm		8	datetime Nullable	Time record was extracted for Morning Briefing. No users or programs should update or modify this record after this time is set.

7.3.4 Morning Briefing 406 MHz Alert Site Daily Counters by Country Table.

This table provides data on 406 MHz Alert Sites (Beacon activations) by Country, to support the Morning Briefing.

Morning Briefing 406 MHz Alert Site Daily Counters by Country Table.: "MornBriefCountryCounters"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MBriefDate	1	8	datetime	The date of the associated Morning Briefing. The time is set to 00:00:00 (hours, minutes and seconds.) <FK=MornBriefCounters>
MidName	2	16	varchar	Name of the MID (Country), as encoded in the Beacon Id.
NumBcnActivations		4	int	Number of beacon activations for this country.
AddTime		8	datetime	Time this record was written
UpdateTime		8	datetime	Time this record was last updated (SQL Default is time of record insert)
MBriefExtractionTm		8	datetime Nullable	Time record was extracted for morning brief. No users or programs should update or modify this record after this time is set.

8 Other Structures

8.1 Operator Message Database

The Operator Message Database uses tables and indexes to store messages displayed for the operator and messages for review by analysts and programmers. These messages are generated by 1) applications software, 2) SIT 915 and SIT 605 received from other MCCs, and 3) changes made to configuration files. The format of the database table is provided in Table 9.1.1.

8.1.1 Operator Message Database Structure, Operator Message Log Table

Operator Message Database Structure, Operator Message Log Table ”OperMsgLog”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OprMsgId	1	4	int Identity	Unique Id for Operator Message
EventTime	2:idx	8	datetime	Time of event
OprAckTime		8	datetime Nullable	Time this Message acknowledged by the Operator
ProgPrior		1	tinyint	Programmer priority
OperPrior		1	tinyint	Operator priority 00 ° 09 Not used 10 ° 19 Analyst Level (not for display to the operator) 20 ° 29 Operator Information (no action required) 30 ° 39 Operator Action (operator action required) 40 ° 49 Emergency (Immediate action required)
OperDisplay		1	char	Operator Display requested: ‘Y’ = Yes (generic display), ‘N’ = No If Yes, then field “TextMsg” in row TableId in table TableName should contain (generic) ASCII text to display. (SQL Default is ‘N’)

Operator Message Database Structure, Operator Message Log Table ”OperMsgLog”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SubsysId		4	char	Identifier of Subsystem (application) that generated the Operator message: COM Communications CCVT Com Converter ALRT Alert Processing OPER Operator Interface SMAP SAR Mapping SDAT System Data SMON System Monitoring DBMN Database Maintenance
SubsysMsgNum		4	int	Message number assigned by the Subsystem that generated the message
Program		16	varchar	Program name
UserId		16	varchar	User identifier creating the message
UserIdAck		16	varchar Nullable	User identifier acknowledging message (“AckRequired” indicates message requires and has not received acknowledgement)
Message		255	varchar	Text message generated by the Subsystem
TableName		32	varchar Nullable	Name of primary table for related data
TableId		4	int	Unique Id in table for related data (SQL Default is 0)

8.2 MCC Information Table

8.2.1 MCC Site Structure, MCC Information Table

MCC Site Structure, MCC Information Table "MccInfo"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
ComSiteName	1	16	varchar	Com Site Name of MCC
Agency		64	varchar	Agency which manages the MCC ??
PocName		64	varchar	Name of point of contact
PocAddress		64	varchar	Street address for POC
PocCity		64	varchar	City address for POC
PocState		64	varchar	State (or Province) for POC
PocPostalCode		64	varchar	Postal Code for POC
PocCountry		64	varchar	Country for POC
PocPhoneNum		16	varchar	Phone number for POC
PocFaxNum		16	varchar	Fax number for POC
NumLutServed		2	smallint	Number of LUTs serviced by this MCC
NumSpocServed		2	smallint	Number of SPOCs serviced by this MCC
NumRccServed		2	smallint	Number of RCCs serviced by this MCC
NumSrrServed		2	smallint	Numberof SRRs serviced by this MCC
LutColocated		1	char	Y= MCC colocated with LUT N=MCC not colocated with LUT
RccColocated		1	char	Y= MCC colocated with RCC N=MCC not colocated with RCC
BcnRegAvailable		1	char	Beacon Registration Data available at MCC: Y= yes N= No

MCC Site Structure, MCC Information Table "MccInfo"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
BcnRegMandated		1	char	Country in which MCC is located mandates beacon registration: Y= yes N= no
BackupMcc		16	varchar Nullable	Name of Backup MCC
NocrRequested		1	char	MCC requests NOCR service: Y= yes ? In MID table

8.3 MCC System Identifier Table

This table is not needed, as long as the Primary Key of each Table is generated using the SQL Identity attribute.

8.3.1 MCC System Identifier Table

MCC System Identifier Table "SystemId"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
IdName	1	16	varchar	Identifier Name (eg., "InMsgId")
LastNum		4	int	Last Id Number Used (value initialized to 0, incremented by 1 each time used)
SubsysId		16	varchar	Id of Subsytem or User that last updated "LastNum"
UpdateTime		8	datetime	Time of last update

8.4 MapInfo Alert Site Map Display Table

The Alert Site Map Display Table controls the display of Alert Site locations onto a map of the earth. The mapping done by "off the shelf" software provided by MapInfo.

The Table name and field names are fixed by MapInfo. Note that the 'Table name' contains a prefix of "MAPINFO. This prefix indicates that the Database Owner is MAPINFO. (Normally USMCC Table names are presented withou the an explicit owner. The implicit owner is DBO.)

8.4 MapInfo Alert Site Map Display Table

MapInfo Alert Site Map Display Table "MAPINFO.MAPINFO_MAPCATALOG"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SPATIALTYPE		8	float	Space type of map (specify)
TABLENAME		32	char	Name of table with locations to be mapped
OWNERNAME		32	char	Owner of table (TABLENAME)
SPATIALCOLUM		32	char	Name of column for (?) spatial display
DB_X_LL		8	float	"X" Coordinate lower left hand corner of map limit. Specifies minimum value.
DB_Y_LL		8	float	"Y" Coordinate lower left hand corner of map limit. Specifies minimum value.
DB_X_UR		8	float	"X" Coordinate upper right hand corner of map limit. Specifies maximum value.
DB_Y_UR		8	float	"Y" Coordinate upper right hand corner of map limit. Specifies maximum valu.
COORDINATESYSTEM		254	char	Coordinate system indicator
SYMBOL		254	char	Symbol that indicates the display format of the map. (Eg., point or area, font type)
XCOLUMNAME		32	char	Name of column that supplies "X" Coordinate. (Is used for longitude)
YCOLUMNAME		32	char	Name of column that supplies "Y" Coordinate. (Is used for latitude)

8.5 Communication Status Table

TDB

8.6 SARP/SARR Telemetry Data Tables

As described in Section 3.5, CEMSCS places Telemetry data in a directory on the USMCC File Server. When the USMCC finds a Telemetry file on the USMCC File Server, it generates an entry in the InputMessage tab the TelemetryPassSum table and the InputProcess table, to make it available for further USMCC processing.

Due to the volume and raw nature of this Telemetry data, it is not written directly to an SQL Table, but is referenced an SQL Table. The directory and file name of the Telemetry data is provided in the TelemetryPassSum table in Sect 8.6.1.

The Telemetry data file is a series on 1740 byte records, where the first record contains the 44 character EBCDIC fil name defined by CEMSCS/NESDIS. Subsequent records contain 10 occurences of 174 byte Telemetry blocks. The last record will contain a fill character of Hexadecimal FF in all bytes of any unused blocks.

8.6.1 SARP/SARR Telemetry Pass Summary Tables

The Telemetry Pass Summary table contains a record per input Telemetry file received from CEMSCS. A record contains the data source, begin and end time of the pass, the number of data points received and the number of out of limit points. It contains the Identifier of any output message generated for the data file. For each digital point, it cont the nominal, initial and final status and the number of status changes.

In association, the SARP and SARR Telemetry Point Summary tables contain a summary of the analog points for the data file.

SARP/SARR Telemetry Pass Summary Table "TelemetryPassSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
InMsgId	1 Foreign	4	int	Unique Id of Input message <FK=InputMessage>
Directory		48	varchar	Directory where raw Telemetry data file resides
FileName		48	varchar	Raw Telemetry data File Name, in the format: "NSS.TYPE.SC.DYYJJJ.SHHMM.EHHMM.BRRRRREE.SO", where TYPE = data type (SARM), SC = Satellite-Id, YYJJJ = Year and Julian Day, HHMM = Hour & Minute, RRRRREE = Orbit Begin and End Number and SO=Source (Receiving Station).
AddTime		8	datetime	Time record added
DoneTime		8	datetime Nullable	Time record completed
DataBeginTime		8	datetime Nullable	Data Begin Time, from file name
DataEndTime		8	datetime Nullable	Data End Time, from file name
Sat		3	char	USMCC satellite identifier (SQL Default is Blanks)
SatIdNOAA		2	char Nullable	NOAA's satellite identifier:

SARP/SARR Telemetry Pass Summary Table ”TelemetryPassSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
OrbitBegin		4	int	Beginning Orbit Number, from file name (SQL Default is 0)
OrbitEnd		4	int	Ending Orbit Number, from file name (SQL Default is 0)
RcvStation		2	char	Receiving station, from file name: “GC”= Gilmore Creek, AK “WI”= Wallops Island, VA (SQL Default is Blanks)
SarrDisp		1	char	SARR data disposition: ‘I’ = All parameters In Limits, ‘J’= All parameters Now In Limits, previous file for pass out of limits, ‘E’= Error (not defined) ‘F’= future (early data), not processed ‘L’= late (old data), not processed ‘N ’= No data found to process (set if any active analog parameter has < 2 points processed) , ‘O’= Some parameter(s) Out of Limits, ‘P ’= Some parameter(s) Now Out of Limits, previous file for pass in limits, ‘U’= Unknown, not yet determined Only if SarrDisp= I, J, O or P is the message eligible for a Summary Message. (SQL Default is ‘U ’)
PrimaryMsg		(1)	bit	This is the primary input message for the pass/orbit. Set to True (1) for the message per pass (defined by OrbitEnd) with the most good data, which is defined as NumQualFlag - NumBadQualFlag. Only True if at least 1 major frame is without error. (SQL Default is 0)
SarrSumOutMsgReq		(1)	bit	SARR output summary message is requested and pending. (SQL Default is 0)

SARP/SARR Telemetry Pass Summary Table ”TelemetryPassSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
NumMajorFrames		4	int	Total number of major frames. Each major frame represents 32 seconds of data. (SQL Default is 0)
NumBadMajorFrames		4	int	Number of bad major frames (SQL Default is 0)
NumQualFlag		4	int	Total number of quality word flags. Each quality word flag represents 4 seconds of data (SQL Default is 0)
NumBadQualFlag		4	int	Number of bad quality word flags. Each quality word flag represents 4 seconds of data (SQL Default is 0)
BadDataRate		4	real	Percentage of data that is bad (SQL Default is 0.0)
SarpAnParmAnomaly		1	tiny	Number of SARP Analog Parameters (Point Types) with Anomaly (SQL Default is 0)
SarpAnParmOutLmt		1	tiny	Number of SARP Analog Parameters (Point Types) that are Out of Limits. (SQL Default is 0)
SarpAnTotalOutLmt		4	int	Total number of SARP Analog Parameter Points (for all PointTypes) that are Out of Limits. (SQL Default is 0)
SarpDriftParmAnomaly		1	tiny Nullable: temp??	Number of SARP Drift Analog Parameters (Point Types) with Anomaly (SQL Default is 0)
SarpDriftParmOutLmt		1	tiny	Number of SARP Drift of Analog Parameters (Point Types) that are Out of Limits. (SQL Default is 0)
SarpDriftTotalOutLmt		4	int	Total number of SARP Drift of Analog Parameter Points (for all PointTypes) that are Out of Limits. (SQL Default is 0)
SarpDgParmStatChg		1	tiny	Number of SARP Digital Parameters with Status Change. (SQL Default is 0)

SARP/SARR Telemetry Pass Summary Table ”TelemetryPassSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
SarpDgTotalStatChg		4	int	Total number of SARP Digital Parameter Status Changes. (SQL Default is 0)
SarpSumOutMsgId		4	int	Output Message Id for SARP summary message (SQL Default is 0)
SarpOutLmtOutMsgId		4	int	Output Message Id for SARP out of limits message (SQL Default is 0)
SarrAnParmAnomaly		1	tiny	Number of SARR Analog Parameters (Point Types) with Anomaly (SQL Default is 0)
SarrAnParmOutLmt		1	tiny	Number of SARR Analog Parameters (Point Types) that are Out of Limits. (SQL Default is 0)
SarrAnTotalOutLmt		4	int	Total number of SARR Analog Parameter Points (for all PointTypes) that are Out of Limits. (SQL Default is 0)
SarrDgParmStatChg		1	tiny	Number of SARR Digital Parameters with Status Change. (SQL Default is 0)
SarrDgTotalStatChg		4	int	Total number of SARR Digital Parameter Status Changes. (SQL Default is 0)
SarrSumOutMsgId		4	int	Output Message Id for SARR summary message (SQL Default is 0)
SarrOutLmtOutMsgId		4	int	Output Message Id for SARR out of limits message (SQL Default is 0)
Sarr121Side		1	char	SARR 121 Side: ‘A’ = A side only ‘B’ = B side only ‘C’ = A and B side ‘U ’= unknown (SQL Default is ‘U’)
Sarr243Side		1	char	SARR 243 Side: ‘A’ = A side only ‘B’ = B side only ‘C’ = A and B side ‘U ’= unknown (SQL Default is ‘U’)

SARP/SARR Telemetry Pass Summary Table ”TelemetryPassSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Sarr406Side		1	char	SARR 406 Side: ‘A’ = A side only ‘B’ = B side only ‘C’ = A and B side ‘U ’= unknown (SQL Default is ‘U’)
SarrTxSide		1	char	SARR Transmitter (TX) Side: ‘A’ = A side only ‘B’ = B side only ‘C’ = A and B side ‘U ’= unknown (SQL Default is ‘U’)
SarrPtcSide		1	char	SARR Power-Telemetry-Command (PTC) Side: ‘A’ = A side only ‘B’ = B side only ‘C’ = A and B side ‘U ’= unknown (SQL Default is ‘U’)
SarrAnalogAnomalyPoints		255	varchar Nullable	List of SARR Analog Point Ids with Anomalies that warrant an Out of Limit message. In contrast, SarrAnParmAnomaly counts Anomalies regardless of whether they warrant out an Out of Limit message.

8.6.2 SARP Telemetry Analog Point Summary Table

The SARP Telemetry Point Summary table contain a summary of the analog points for each data file. It contains the mean, mimimum, maximum, error rate and out of limits values, as it appears on output messages. It also includes va for the drift of the analog parameters; these parameters contain r "Drift" in the field name. Note that all Analog and Drift of Analog values, except raw counts, are filtered. (See description of field "NewValueWeight" in table TelemSarpS7AnalogCfg for more information on Filtering.)

SARP Telemetry Analog Point Summary Table "TelemSARPAnalogPointSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identify	Unique Id of Point record
InMsgId	2:ix	4	int	Unique Id of Input message
Sat		3	char	Satellite Id
OrbitEnd		4	int	Ending Orbit Number, from file name
DataBeginTime		8	datetime	Data BeginTime for data file
DataEndTime		8	datetime	Data End Time for data file
PointId		16	varchar	Point Identifier, per TelemSARPAnalogPointIdCfg table
NumPointsNotProc		2	smallint	Number of points not processed, of those with a good quality word indicator. Points with a raw count of 0 or 255 are not processed.
NumPointsProc		2	smallint	Number of points processed, of those with a good quality word indicator
NumOutLmt		2	smallint	Number of (Analog) data points out of limits
LowOutLmt		(1)	bit	(Analog) Low Value Out of Limits detected: 1 = yes
HighOutLmt		(1)	bit	(Analog) High Value Out of Limits detected: 1 = yes
NumAnomaly		2	smallint	(Analog) Number of anomalies

SARP Telemetry Analog Point Summary Table ”TelemSARPAnalogPointSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MinRawCount		1	tiny	(Analog) Minimum value, raw data count
MaxRawCount		1	tiny	(Analog) Maximum value, raw data count
MinTelemVolts		4	real	(Analog) Minimum value, telemetry volts
MaxTelemVolts		4	real	(Analog) Maximum value, telemetry volts
MeanTelemVolts		4	real	(Analog) Mean value, telemetry volts
MinEngUnits		4	real	(Analog) Minimum value, engineering units
MaxEngUnits		4	real	(Analog) Maximum value, engineering units
MeanEngUnits		4	real	(Analog) Mean value, engineering units
Sigma		8	float	(Analog) Sigma
MinValTime		8	datetime Nullable	Time when minimum (Analog) value occurred (early time if duplicates)
MaxValTime		8	datetime Nullable	Time when maximum (Analog) value occurred (early time if duplicates)
DriftNumOutLmt		2	smallint	Number of (Drift of Analog) data points out of limits
DriftLowOutLmt		(1)	bit	(Drift of Analog) Low Value Out of Limits detected: 1 = yes
DriftHighOutLmt		(1)	bit	(Drift of Analog) High Value Out of Limits detected: 1 = yes
DriftNumAnomaly		2	smallint	(Drift of Analog) Number of anomalies
DriftMinTelemVolts		4	real	(Drift of Analog) Minimum value, telemetry volts
DriftMaxTelemVolts		4	real	(Drift of Analog) Maximum value, telemetry volts
DriftMinEngUnits		4	real	(Drift of Analog) Minimum value, engineering units

SARP Telemetry Analog Point Summary Table ”TelemSARPAnalogPointSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
DriftMaxEngUnits		4	real	(Drift of Analog) Maximum value, engineering units
AddTime	3:ix	8	datetime	Time record added

8.6.3 SARR Telemetry Analog Point Summary Table

The SARR Telemetry Analog Point Summary table contain a summary of the analog points for each data file. It contains the mean, mimimum, maximum, error rate and out of limits values, as it appears on output messages.

SARR Telemetry Analog Point Summary Table ”TelemSARRAnalogPointSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identify	Unique Id of Point record
InMsgId	2:ix	4	int	Unique Id of Input message
Sat		3	char	Satellite Id
OrbitEnd		4	int	Ending Orbit Number, from file name
DataBeginTime		8	datetime	Data BeginTime for data file
DataEndTime		8	datetime	Data End Time for data file
PointId		16	varchar	Point Identifier, per TelemSARPAnalogPointIdCfg table
NumPointsNotProc		2	smallint	Number of points not processed, of those with a good quality word indicator. Points with a raw count of 0 or 255 are not processed.
NumPointsProc		2	smallint	Number of points processed, of those with a good quality word indicator.
NumOutLmt		2	smallint	Number of data points out of limits
LowOutLmt		(1)	bit	LowValue Out of Limits detected: 1 = yes
HighOutLmt		(1)	bit	High Value Out of Limits detected: 1 = yes
NumAnomaly		2	smallint	Number of anomalies
MinRawCount		1	tiny	Minimum value, raw data count
MaxRawCount		1	tiny	Maximum value, raw data count
MinTelemVolts		4	real	Minimum value, telemetry volts
MaxTelemVolts		4	real	Maximum value, telemetry volts

SARR Telemetry Analog Point Summary Table ”TelemSARRAnalogPointSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
MeanTelemVolts		4	real	Mean value, telemetry volts
MinEngUnits		4	real	Minimum value, engineering units
MaxEngUnits		4	real	Maximum value, engineering units
MeanEngUnits		4	real	Mean value, engineering units
Sigma		8	float	Sigma
MinValTime		8	datetime Nullable	Time when minimum value occurred (early time if duplicates)
MaxValTime		8	datetime Nullable	Time when maximum value occurred (early time if duplicates)
AddTime	3:ix	8	datetime	Time record added

8.6.4 SARP Telemetry Digital Point Summary Table

The SARP Digital Telemetry Point Summary table contain a summary of the SARP digital points for each data file. contains the nominal, initial and final status for each point.

SARP Telemetry Digital Point Summary Table ”TelemSARPDigitalPointSum”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identify	Unique Id of Point record
InMsgId	2:ix	4	int	Unique Id of Input message
Sat		3	char	Satellite Id
OrbitEnd		4	int	Ending Orbit Number, from file name
DataBeginTime		8	datetime	Data BeginTime for data file
DataEndTime		8	datetime	Data End Time for data file
PointId		16	varchar	Point Identifier, per TelemSARPDigitalPointIdCfg table
NumPointsNotProc		2	smallint	Number of points not processed, of those with a good quality word indicator. Points with an ‘apparent’ change in status not processed until the change is ‘confirmed’ by a receiving the new status “n” consecutive times.
NumPointsProc		2	smallint	Number of points processed, of those with a good quality word indicator
NumOutLmt		2	smallint	Number of data points out of limits, meaning that the status changed from the ‘initial’ status. (Used to generate Out of Limits message.)
NominalStatus		(1)	bit	Nominal Status: 1 = On 0 = Off
InitStatus		(1)	bit	Initial Status: 1 = On 0 = Off

SARP Telemetry Digital Point Summary Table "TelemSARPDigitalPointSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
FinalStatus		(1)	bit	Final Status: 1 = On 0 = Off
NumStatusChg		2	smallint	Number of Status Changes
FirstStatusChgTime		8	datetime Nullable	Time of first status change
AddTime:ix		8	datetime	Time record added

8.6.5 SARR Telemetry Digital Point Summary Table

The SARR Digital Telemetry Point Summary table contain a summary of the SARR digital points for each data file. contains the nominal, initial and final status for each point.

SARR Telemetry Digital Point Summary Table "TelemSARRDigitalPointSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
RecId	1	4	int Identify	Unique Id of Point record
InMsgId	2:ix	4	int	Unique Id of Input message
Sat		3	char	Satellite Id
OrbitEnd		4	int	Ending Orbit Number, from file name
DataBeginTime		8	datetime	Data BeginTime for data file
DataEndTime		8	datetime	Data End Time for data file
PointId		16	varchar	Point Identifier, per TelemSARPDigitalPointIdCfg table
NumPointsNotProc		2	smallint	Number of points not processed, of those with a good quality word indicator. Points with an 'apparent' change in status not processed until the change is 'confirmed' by a receiving the new status "n" consecutive times.
NumPointsProc		2	smallint	Number of points processed, of those with a good quality word indicator
NumOutLmt		2	smallint	Number of data points out of limits, meaning that the status changed from the 'initial' status. (Not used to generate Out of Limits message.)
ANominalStatus		(1)	bit	A side nominal Status: 1 = A On, B Off , 0 = A Off, B On
AInitStatus		(1)	bit	A side initial Status: 1 = A On, B Off , 0 = A Off, B On

SARR Telemetry Digital Point Summary Table "TelemSARRDigitalPointSum"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AFinalStatus		(1)	bit	A side final Status: 1 = A On, B Off , 0 = A Off, B On
NumStatusChg		2	smallint	Number of Status Changes
FirstStatusChgTime		8	datetime Nullable	Time of first status change
AddTime	3:ix	8	datetime	Time record added

8.6.6 SARP Telemetry Analog Point LogTable

The SARP Telemetry Analog Point (Parameter) Log table contains data about telemetry analog points as received or the satellite. It provides information such as time of point, raw count, and data value in both telemetry volts and engineering units. Before SARP Analog raw counts are converted to engineering units, the data is filtered to reduce effects of noise. The filtering process averages the new value by the previous (weighted) value, using a configurable weighing factor.

Writing the Log is configurable. The Log may be written for all parameter types for all satellites, by parameter type satellite, or at a specified rate (eg., every 32 seconds).

SARP Telemetry Analog Point Log Table "TelemSARPAnalogPointLog"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LogId	1	4	int Identify	Unique Id of Log record
InMsgId	2:ix	4	int	Unique Id of Input message
Sat		3	char	Satellite Id
InMsgByte		4	int	Byte position of point in input message file
DataTime		8	datetime	Time of data point
PointId		16	varchar	Point identifier
RawCount		1	tinyint	Raw data count
TelemVolts		4	real	Filtered data value in telemetry volts
EngUnits		4	real	Filtered data value in engineering units
LowOutLmt		(1)	bit	Low out of limits value exceeded for analog value
HighOutLmt		(1)	bit	High out of limits value exceeded for analog value
Anomaly		(1)	bit	Anomaly detected for this out of limit point. 0 = No 1 = Yes: this is the last point in the series of out of limit points that formed an Anomaly.
NumOutLmtInRow		2	smallint	Number of Out of Limits in a row for this analog value

SARP Telemetry Analog Point Log Table ”TelemSARPAnalogPointLog”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LowDriftOutLmt		(1)	bit	Low Out of limits value exceeded for drift of analog value: 0 = No
HighDriftOutLmt		(1)	bit	High Out of limits value exceeded for drift of analog value: 0 = No
DriftAnomaly		(1)	bit	Drift Anomaly detected for this out of limit point. 0 = No 1 = Yes: this is the last point in the series of out of limit points that formed an Drift Anomaly.
Lat		4	real Nullable	Sub Satellite latitude at data time
Lon		4	real Nullable	Sub Satellite longitude at data time
AddTime	3:ix	8	datetime	Time record added to log

8.6.7 SARR Telemetry Analog Point LogTable

The SARR Telemetry Analog Point (Parameter) Log table contains data about telemetry analog points as received o the satellite. It provides information such as time of point, raw count, and data value in both telemetry volts and engineering units.

Writing the Log is configurable. The Log may be written for all parameter types for all satellites, by parameter type satellite, or at a specified rate (eg., every 32 seconds).

SARR Telemetry Analog Point Log Table "TelemSARRAnalogPointLog"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LogId	1	4	int Identify	Unique Id of Log record
InMsgId	2:ix	4	int	Unique Id of Input message
Sat		3	char	Satellite Id
InMsgByte		4	int	Byte position of point in input message file
DataTime		8	datetime	Time of data point
PointId		16	varchar	Point identifier
RawCount		1	tinyint	Raw data count
TelemVolts		4	real	Data value in telemetry volts
EngUnits		4	real	Data value in engineering units
LowOutLmt		(1)	bit	Low out of limits value exceeded
HighOutLmt		(1)	bit	High out of limits value exceeded
Anomaly		(1)	bit	Anomaly detected for this out of limit point. If Yes (=1), this is the last point in the series of out of limit points that formed an Anomaly.
NumOutLmtInRow		2	smallint	Number of Out of Limits in a row for this point.
Lat		4	real Nullable	Sub Satellite latitude at data time
Lon		4	real Nullable	Sub Satellite longitude at data time

SARR Telemetry Analog Point Log Table ”TelemSARRAnalogPointLog”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
AddTime	3:ix	8	datetime	Time record added to log

8.6.8 SARP Telemetry Digital Point LogTable

The SARP Telemetry Digital Point (Parameter) Log table contains data about telemetry digital points as received on the satellite. It provides information such as time of point, status and status change.

It is configurable how often and under what conditions the Log is written. The Log may be written for all parameter types for all satellites, or by parameter type by satellite. The Log may be written at a specified rate (eg., every 32 seconds) and for out of limits values.

SARP Telemetry Digital Point Log Table ”TelemSARPDigitalPointLog”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
LogId	1	4	int Identify	Unique Id of Log record
InMsgId	2:ix	4	int	Unique Id of Input message
Sat		3	char	Satellite Id
InMsgByte		4	int	Byte position of point in input message file
DataTime		8	datetime	Time of data point
PointId		16	varchar	Point identifier
RawCount		1	tinyint	Raw data count
Status		(1)	bit	Status: 1 = On
StatusChg		(1)	bit	Status change from previously established status
OutLmt		(1)	bit	Out of limits condition: value differs from nominal value
NumStatusChgInRow		2	smallint	Number of status changes in a row detected versus previous established status.
Lat		4	real Nullable	Sub Satellite latitude at data time

SARP Telemetry Digital Point Log Table "TelemSARPDigitalPointLog"				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Lon		4	real Nullable	Sub Satellite longitude at data time
AddTime	3:ix	8	datetime	Time record added to log

8.6.9 SARR Telemetry Digital Point LogTable

The SARR Telemetry Digital Point (Parameter) Log table contains data about telemetry digital points as received o the satellite. It provides information such as time of point, status and status change.

It is configurable how often and under what conditions the Log is written. The Log may be written for all parameter types for all satellites, or by parameter type by satellite. The Log may be written at a specified rate (eg., every 32 seconds) and for out of limits values.

SARR Telemetry Digital Point Log Table "TelemSARRDigitalPointLog"

Field Name	Key	Bytes	Data Type	Description
LogId	1	4	int Identify	Unique Id of Log record
InMsgId	2:ix	4	int	Unique Id of Input message
Sat		3	char	Satellite Id
InMsgByte		4	int	Byte position of point in input message file
DataTime		8	datetime	Time of data point
PointId		16	varchar	Point identifier
RawCount		1	tinyint	Raw data count
AStatus		(1)	bit	A side Status: 1 = A side On
StatusChg		(1)	bit	Status change from previous established status.
OutLmt		(1)	bit	Out of limits condition: value differs from nominal value
NumStatusChgInRow		2	smallint	Number of status changes in a row detected versus previous established status.
Lat		4	real Nullable	Sub Satellite latitude at data time
Lon		4	real Nullable	Sub Satellite longitude at data time
AddTime	3:ix	8	datetime	Time record added to log

8.7 COSPAS-SARSAT Orbit Vector Data Table

The Cospas-Sarsat Orbit Vector date table is written with periodically with Cospas and Sarsat satellite orbit vectors. It is the source for orbit vectors send to the LUTs. The orbit vectors in this table are propagated at the MCC using tl SGP4 model, and are based on two line orbital elements received from Naval Space Command. These orbit vectors are written with gaps between epoch times of no more than one hour.

COSPAS-SARSAT Orbit Vector Data Table ”OrbitVector”				
Field Name	**Key**	**Bytes**	**Data Type**	**Description**
Sat	1.1	3	char	Satellite Id
Orbit		4	int	Orbit number
Epoch	1.2	8	datetime	Epoch time for position and velocity vectors
SatXPos		8	float	Satellite X position vector in km
SatYPos		8	float	Satellite Y position vector in km
SatZPos		8	float	Satellite Z position vector in km
SatXVel		8	float	Satellite X direction velocity in km/sec
SatYVel		8	float	Satellite Y direction velocity in km/sec
SatZVel		8	float	Satellite Z direction velocity in km/sec
DoneTime		8	datetime	Time record (last) written

This page ends the Data Structures document file.